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DECEMBER 28, 1889.

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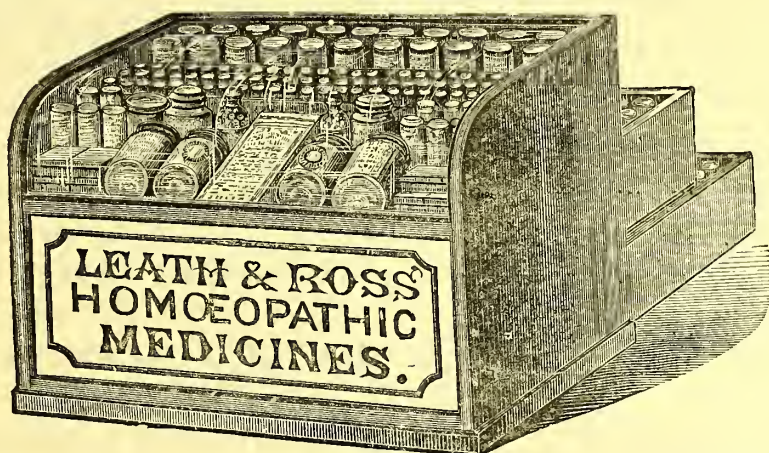
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DESCRIPTION.—A Handsome Bent Glass Case, with three drawers, the contents of top drawer visible, the Pilules and Tinctures arranged in the other two in alphabetical order.

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GLOBULES OF PILULES—

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Shilling „	—	—	5/- „

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Sixpenny Bottles	—	—	2/9 per dozen.
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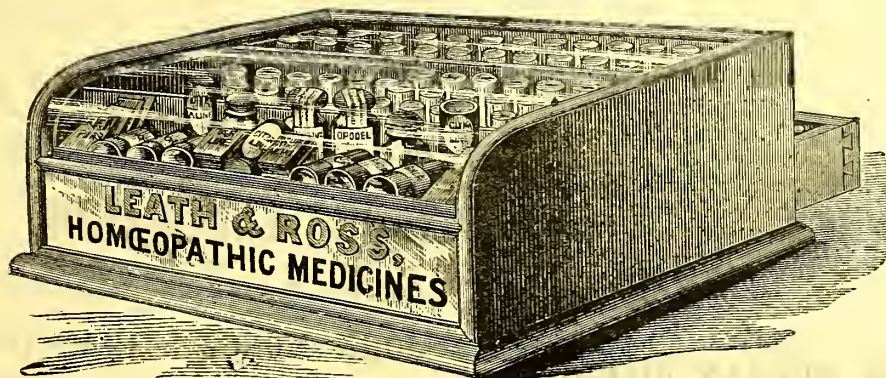
Neuraline	—	—	1/1½	Berberine	—	—	1/1½	Linimentum Auricularis	—	1/1½
Glykaline	—	—	1/1½	Chilblain Liniment	—	—	1/1½	Bryonia Liniment	—	1/1½
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1-oz. (4/6 size)	42/6 per doz.
Gross and upwards	38/- „
4-oz. (14/- size)... ..	12/6 each.
Dozen and upwards	11/- „
8-oz. (27/- size)... ..	23/6 „
Dozen and upwards	21/- „

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4-oz.	10/6 each.
Dozen and upwards	9/- „
8-oz.	20/6 „
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Dozen and upwards	9/- „
8-oz.	20/6 „
Dozen and upwards	18/- „

 Terms Net Cash, Monthly Account.

JOHN MORGAN RICHARDS.

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will be 9/- per doz. net.

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CARTER'S IRON PILLS
will be 22/- per doz. net.

CARTER'S LIVER BITTERS
will be 36/- per doz. net.

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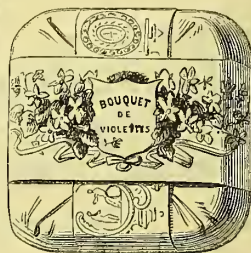
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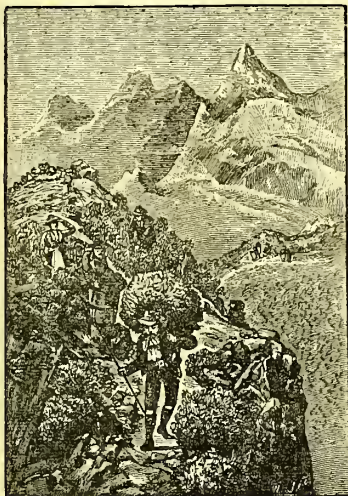
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For Sore Throat, Cough, Hoarseness, &c., they give immediate relief.

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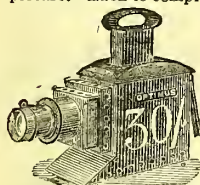
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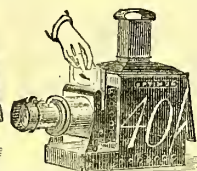
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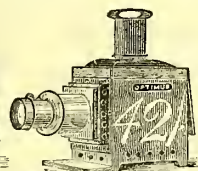
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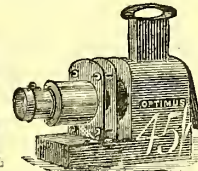
Japanned Metal, 30s.



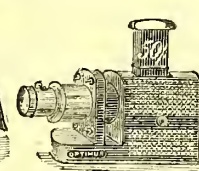
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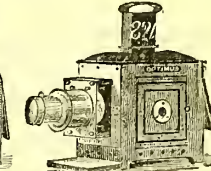
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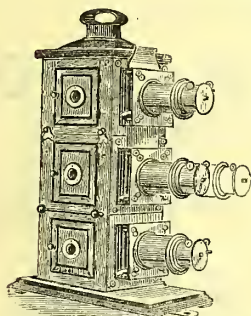
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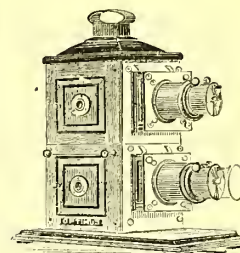


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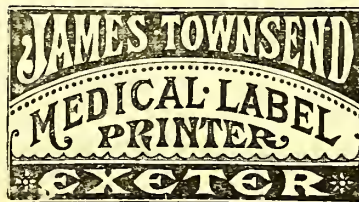
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Sponges, very convenient, cheap. "Chemist," 84 Sherwood Street, Nottingham.

Glass bottles, job lines.—About 50 gross 3-oz. pale green pomades for corks, 4s. 6d. per gross; 2 gross 6 oz. screw nickel-capped pomades, 16s.; 1 gross 16-oz. ditto, 30s.; 3 gross 1-pint (reputed) green syrups, 7s.; 4 gross 1-pint ditto, 10s.; 2 gross 1-pint ditto, 15s.; 3 gross 1-pint ditto, 20s.; 3 gross 2-oz. white globe-necked panels, 7s. Hearn, 381 Kingsland Road, London.

Miscellaneous.

50 boxes choice Princecess cigars, 7s. 6d. 100, cost 11s.; 12 boxes, in dispute, cost 15s., price 10s. 6d. 100. Slater, Beeston Hill, Leeds.

10 boxes choice 1835 Havana cigars, cost 34s., price 24s. 100; 25 50's choice cigars, cost 11s. 6d., price 6s. 6d. Slater, Beeston Hill, Leeds.

WANTED.

Leg support, as Maw's fig. 3. 209/35.

Chemists' and Druggists' Diary, 1889. Apply Wm. Willey, Cleethorpe Road, Grimsby.

Several glazed doors or slides; also deal drug drawers. Particulars to F. R. Pell, Chemist, Swaffham.

A handsome good-sized dental show-case, with or without specimens. J. Young, 28 North Parade, Halifax.

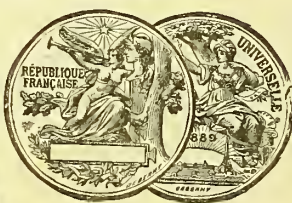
G. B. KENT & SONS

Have been awarded the ONLY



A.D. 1777.

GOLD MEDAL



At the Paris Exhibition, 1889, for

ENGLISH BRUSHES

See Advt. pp. 374 to 377 in "C. & D. Diary," 1890.

RANDALL'S
BLACK CURRANT LOZENGES

Plain Black Currant, old square 2/6	Black Currant Voice (warm
Plain Black Currant, rough oval 2/6	astringent) 3/
Black Currant and Ipecacuanha 2/6	Black Currant Cough Lozenges* 3/6
Black Currant and Tannin .. 3/	*Ipecac. & Morph., strength as "B.P."

In Bottles, 1-lb., 2-lb., 4-lb., and 7-lb. For Exportation, in Soldered Tins, of any size. From EDWARDS, London, or SANGER & SONS; through any Wholesale House; and from the Manufacturers,

RANDALL & SON, SOUTHAMPTON,

Who will forward Samples by post on application.

Also Brown Cough Lozenges, 2/; 7 lbs. stamped with name free, and Musk Lozenges (Special), 2 6.

N.B.—Medical Lozenges of every kind, including those of the Pharmacopœia of the Hospital for Diseases of the Throat, London, made with Black or Red Currant.

Trade Notice.

TO PREVENT DISAPPOINTMENT,

S. MAW, SON & THOMPSON

Beg to inform the Trade that their

ESTABLISHMENT WILL BE CLOSED

ON

Wednesday and Thursday, the 25th and 26th inst.

FOR THE

CHRISTMAS HOLIDAYS,

AND ALSO ON

Monday and Tuesday, the 30th & 31st inst.

FOR THE

PURPOSE OF STOCK-TAKING.

7 to 12 Aldersgate Street, London.

December 1, 1889.

JOHNSON & JOHNSON

NEW YORK and LONDON,

MANUFACTURING CHEMISTS,

MANUFACTURERS OF ALL VARIETIES OF

MEDICINAL AND SURGICAL PLASTERS IN RUBBER COMBINATION

(PERFORATED AND PLAIN), AND ISINGLASS AND MUSTARD PLASTERS.

ALSO MOIST ANTISEPTIC DRESSINGS & ABSORBENTS.

IMPROVED BELLADONNA PLASTER.

Increased action by the addition of Boracic Acid and a mild rubefacient, by which the activity of the cutaneous glands is stimulated, and their power of absorption increased.

We have succeeded in greatly increasing the therapeutic value of Belladonna and other Plasters.

FIRST.—By preparing the mass in a manner calculated to promote a more rapid absorption of the incorporated drug.

SECOND.—By employing (in Belladonna Plaster) a more reliable extract of the drug than is commonly used.

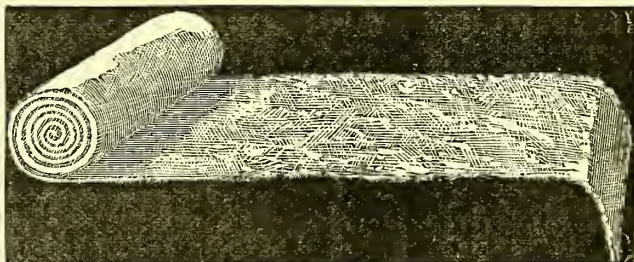
The attention of manufacturers of Medicated Plasters has hitherto been directed chiefly toward perfecting the mechanical excellence of their preparations, overlooking, to a certain extent, the real end and aim for which Plasters are made.

The extent to which counter-irritants, solvents, detergents, &c., can be utilised in Plasters to produce a mechanical chemical alteration of the epidermis, thus rendering the skin more absorptive, has been largely if not entirely overlooked.

By the addition of Boracic Acid and a mild rubefacient to the regular Belladonna Plaster formula, several important advantages are secured. The fatty matter in the pores is dissolved by the detergent action of the former, and the glands are expanded and stimulated by the counter-irritative action of the latter, by which means not only is a larger proportion of the medicinal element of the Plaster absorbed, but the therapeutic effect is both increased and more rapidly obtained.

ABSORBENT COTTON IN EVEN SHEETS

Rolled with Tissue Paper between them to prevent felting.

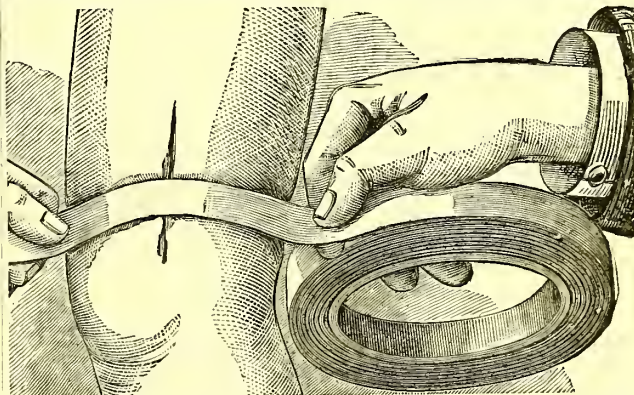


Cotton in this form is as easily applicable as an ordinary cloth bandage.

Its advantages can be seen at a glance.

Supplied in all sized Packets from 1 oz. to 1 pound.

RUBBER ADHESIVE PLASTER on HOLLOW CYLINDERS.



Pronounced by Surgeons to be the most convenient form ever devised for adhesive plaster. Besides its convenience it is much cheaper than rubber adhesive plaster on spools. It is put up in width varying from $\frac{1}{2}$ an inch to 3 inches, 5 yards long, in neatly decorated tin boxes.



ANTISEPTIC TABLETS.

The increasing demand for antiseptic agents in a convenient form has induced us to prepare Corrosive Sublimate Tablets after the following formula :

Corrosive Sublimate, gr. 7, 3.

Ammonium Chlor., gr. 7, 7.

The ammonium chloride is used to make the solution permanent so that the corrosive sublimate will not be precipitated by the organic matter usually contained in water. Each Tablet contains the requisite amount of corrosive sublimate to make a solution of 1-1,000 when added to a pint of water.

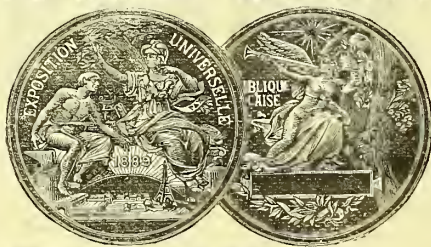
Our goods are supplied by all the leading Wholesale Houses in Great Britain and Ireland, also by our

SOLE WHOLESALE AGENTS, H. C. MASON & CO., 1 & 2 AUSTRALIAN AVENUE, LONDON, E.C.

who will be glad to forward Lists and terms on application.

When ordering through the Wholesale Houses care should be taken to specify the goods of JOHNSON & JOHNSON'S Manufacture.)

PARIS EXHIBITION, 1889.
PRIZE MEDAL AWARDED TO



"SALVO PETROLIA"

(VASELINE).

Absolutely Genuine Paraffinum Molle of the very Purest Form, and we claim that it is superior to Vaseline.

Packed in Tins, 1, 4, 10, 14, 28, 56, and 112 lbs.

"OLEUM DEELINÆ"

(REGISTERED).

Universally adopted by the Medical Profession for

ECZEMA,
OPHTHALMIA, SCURVY, RINGWORM,
ITCH, PILES, SKIN DISEASES,

FOR
EXTERNAL & INTERNAL IRRITATION
OF EVERY KIND.

PACKED IN CASES—

One Doz. 1s. 6d. Bottles; One Doz. 2s. 6d. Bottles;
or half of each.

TESTIMONIALS MAY BE HAD UPON APPLICATION.

"EDIBLE SALVO PETROLIA"

For Public Speakers, Actors, & Singers.
1s. per Tube.

The above are Manufactured Solely by the Proprietors,

THE DEE OIL COMPANY,
LIMITED.

Works—SALTNEY, CHESTER.

OFFICES:

LONDON — 38 LEADENHALL ST., E.C.

Liverpool, Dublin, Manchester, Glasgow, Hull, Cardiff,
Bristol, Belfast, Barrow-in-Furness, Nottingham,
Paris, Hamburg, &c.

H. P. TRUEFITT'S SPECIALITIES FOR THE HAIR.

Floral Extract, 3/6, 5/-,
10/6, 21/-
Egg Julep, 2/-, 4/-
CONCENTRATED
Egg Julep, 2/6,
5/-, 10/6.
Golden Fluid,
10/6, 21/-
EUXURON,
1/6.
&c.

Stimulating Lotion, 5/-
10/6.
Astringent and Tonic
Lotion, 5/-, 10/6.
Quinine and Arnica
Hair Wash, 3/6,
5/-, 10/6, 21/-
Arnica Wash,
3/6, 5/-,
10/6.
&c.

EUCHRISMA.
Combines in one clear Fluid every valuable
Component both of a Hair Grease and Wash,
3/6, 5/-, 10/6, 21/-.

EAU RACINE.
For restoring the original colour of Grey Hair;
superior to all other Restorers, being perfectly
simple in its Components. Price 6/-.

An elegant Preparation for
the Hair and Beard.
Price 2/6, 3/6, 5/-, 10/6, 21/-.

BRILLANTINE.

H. P. TRUEFITT'S TONIC TOOTH BRUSH

(BY ROYAL LETTERS PATENT.)

PRICE ONE SHILLING.

20 & 21 Burlington Arcade; 13 & 14 Old Bond St., London.

HOPGOOD & CO'S
HAIR NUTRITIVE & SEDATIVE
CREAM

The only preparation for the Hair
recommended by leading Physicians
for the removal of Scurf, allaying
irritation, preventing greyness and
baldness, and producing a

LUXURIANT HEAD of HAIR.

In Bottles to retail at 1s. 6d., 2s., 2s. 6d., 3s. 6d., 5s.
Revised Wholesale Prices, 12s. 6d., 16s. 6d., 20s., 30s., and 42s. per dozen
Supplied by all Wholesale Sundry Houses,
OR FROM THE DEPÔT—

OSBORNE, GARRETT & CO., 51 Frith St., Soho, London, W.

EWEN'S LARD

IS

GUARANTEED PURE.

EVERY GENUINE PACKAGE BEARS THEIR LABEL
Trade Mark. Trade Mark.



EWEN'S
Clarified Fat Works,
Perfumery and



Facsimile of Label. Toilet Soap Factory, 5 HATFIELD STREET, LONDON, S.E. Facsimile of Label.



E. CHEESEMAN-J. HOLDSWORTH,
TRADING AS

OSBORNE, BAUER & CHEESEMAN

Perfumers to the Queen, 19 GOLDEN SQUARE, REGENT STREET, LONDON,

MANUFACTURERS OF THE BEST PERFUMERY IN ALL ITS BRANCHES

AND OF PURE REFINED AND RE-MELTED SOAPS.

OLD STYLE. NOT "MILLED."

NEW SERIES OF

AMMONIATED



COMBINING IN ONE BOTTLE

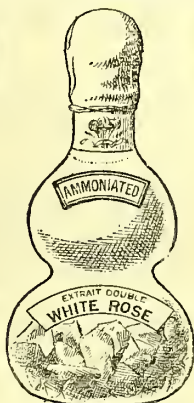
SMELLING SALTS

AND

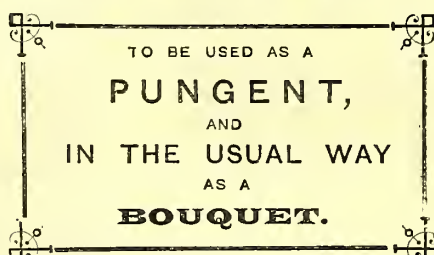
PERFUME

FOR THE

HANDKERCHIEF.



PERFUMES



TO BE USED AS A

PUNGENT,

AND

IN THE USUAL WAY

AS A

BOUQUET.

All Varieties of PERFUMES.

AN ELEGANT PRESENT.

(1/2 SIZE)

One Shape. One Price. Retail 2/6.

2 OR 3 IN FANCY BOXES.

SOLE PROPRIETORS OF THE FOLLOWING SPECIALITIES:

"BABY'S SOAP."

"CHILBLAIN JELLY."

"GLYCERINE AND HONEY JELLY."

"BAUER'S HEAD (AND BATH) SOAP."

"CRISTIN'S RUBY LIP BALM."

"THE INCOMPARABLE SMELLING SALTS,"

"Carbolic Acid and Tar Toilet Soap," "Cosmetic Petrolene Soap," "Cosmetic Petrolene Soap" (unscented), "Pure Oatmeal Soap," "Juniper Tree Oil Soap," "Marlborough Soap," "Petroleum or Dispensing Soap," "Sulphur Soap," The Real Old Windsor (blue packets) as made in the last century.



WRIGHT'S MYRRH TOOTH SOAP.

The Most Elegant Dentifrice on the Market.

REMOVES TARTAR. PRESERVES THE ENAMEL. PREVENTS DECAY.
GIVES PEARLY WHITE TEETH. HARDENS & STRENGTHENS
THE GUMS. CURES OFFENSIVE BREATH. A GEM FOR THE TOILET

Put up in an attractive manner for show case display, and contains in a modified form the medicinal properties of Myrrh. It is an elegant saponaceous Dentifrice, absolutely pure, containing no mineral or acid substance, and no ingredient entering into its composition is in the least degree harmful or unwholesome.

ENDORSED BY THE HIGHEST DENTAL AUTHORITIES.

A Professor of Clinical Surgery in the Dental College at the Michigan State University says:
GENTLEMEN—I am satisfied from a careful examination of your Myrrh Tooth Soap that it contains nothing injurious to the Teeth. I am using it, and consider it a most excellent dentifrice.—J. A. WALLING, D.D.S. Ann Arbor, Mich., U.S.A., March, 1886.

Professor J. TAFT, of the Cincinnati, Ohio, U.S.A., and Michigan, U.S.A., Dental Colleges, and also author of "Tatt's Operative Dentistry," and editor of the "Dental Review," states: I have used your Myrrh Tooth soap for several months, and am free to say that I am much pleased with it. So far as I know it has no superior if an equal in the preparations of this kind. To none of the materials used in its composition can any objection be made; indeed they are the materials largely used in the preparation of dentifrices generally. You have certainly succeeded in producing a most excellent dental soap. Yours very truly, J. TAFT.

PRICE EIGHT SHILLINGS PER DOZEN.

Can be obtained of

H. A. GOODALL & CO., Bartlett's Buildings, Holborn Circus, London, E.C.

R C TREATT

Dunster House Mining Lane

LONDON

IMPORTER OF

Musk

Civet

Ambergris

Attar - of - Rose

ESSENTIAL OILS



Wholesale
and
Export
only.

APPLICATION

ON

QUOTATIONS

AND

PRICE LIST

COOK'S ANTISEPTIC SOAP

(THOMSON'S PATENT),

Has been tested in a Physiological Laboratory as a Germ Destroyer, and proved to be more efficient than any other experimented with.
(See "Journal of Chemical Industry, 1883, No. 3.) Of great value in CASES OF**ECZEMA, RINGWORM, SCABIES, FAVUS**
AND OTHER SKIN DISEASES.

See "The Lancet," 12 May, 1883, page 936.

Price in 3-Tablet Boxes, per doz. **12/-**; Selling Price, **1/6**; in $\frac{1}{4}$ -gross Boxes, **10/6** per box.**GOLD MEDAL, PARIS EXHIBITION, 1889.**

Can be obtained through MESSRS. S. MAW, SON & THOMPSON, LONDON, or of

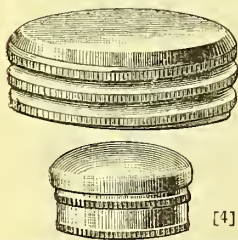
EDWARD COOK & CO., HOUSEHOLD and TOILET **SOAP MAKERS, LONDON, E.****SPRING BLOSSOM**
CEYLON TEA.AGENTS WANTED
WHERE NOT REPRESENTED.

FRAGRANT AS THE FLOWERS OF SPRING:

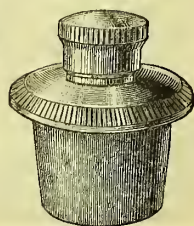
Packed in Tins or Lead Packets. Most Attractive Packages

In $\frac{1}{4}$ -lb., $\frac{1}{2}$ -lb., and 1-lb. Boxes, to sell Retail at 2/-, 2/6, and 3/- per lb. Set of three $\frac{1}{4}$ -lb. samples post free for 2/- in stamps.

SEND TRADE CARD FOR PRICE LIST AND TERMS TO

CAVE, JOHNSON & CO., WHOLESALE TEA AND COFFEE DEALERS, **8 LIME ST., LONDON, E.C.**METAL BOTTLE CAPS
AND
SCREWED BOTTLES.For Paints, Perfumes, Soaps, Creams, Oils, and all Fluid
or Semi-Fluid Substances.PERFUME SPRINKLER
AND
BOTTLES.**H. G. SANDERS & SON**
MANUFACTURERS,
VICTORIA WORKS, VICTORIA GARDENS, NOTTING HILL GATE,
LONDON, W.

TELEGRAPHIC ADDRESS: "COLLAPSIBLE LONDON." ESTABLISHED 1820.

**THE NEW PUMP-ACTION**
PERFUME SPRAY

(NO RUBBER TO PERISH).

These are very simple in construction, and much less likely to get out of order than those with
indiarubber fittings. The valves are made of silver, so as not to corrode.Price from **3/-** per doz. upwards.**E. BENTLEY & SON,**

Druggists' Sun-riesmen and Medicine Chest Manufacturers,

14 TABERNACLE STREET. E.C.

THE
BEST, LARGEST, CHEAPEST

And by far the most



Superior Style in the Trade.

Full Sample of each Post Free for 2s. 6d.

PRICES.

£1 Assorted Orders, Carriage Paid.

Accounts amounting to £50 during the year, a Bonus (in goods at List Prices) to the value of £2 10s. (equal to 5 per cent.) will be given. Accounts of £100, a Bonus (in goods as above), to the value of £7 10s. (equal to 7½ per cent.) will be given.

TERMS—NETT, CASH WITH ORDER.

1d. POWDER, Square Packets, per gross	4/6	1/0 POWDER, Round Boxes, per gross	72/0
2d. " " " "	8/6	6d. LUMP, Square Boxes ... "	36/0
3d. " Round Boxes "	18/0	1/0 " " " "	72/0
6d. " " " "	36/0	POWDER, in Bulk ... "	per cwt. 12/6

*WHOLESALE TERMS ON APPLICATION,
which will be found, on comparison, not to be equalled.*

The subjoined are two out of many unsolicited testimonials—

MR. HARTLEY, Chemist, Westbourne Square, W., writes:—"I don't know any Fuller's Earth on the market so attractively got up."

MESSRS. FULLER & CO., Chemists, Norwich, say:—"We received your samples, and are very pleased with them; please send enclosed order."

LEWIS VIGIS, BATH.

WHOLESALE AGENTS—

BAISS BROS. & CO., 4 JEWRY STREET, E.C.; BARCLAY & SONS, LIMITED, 95 FARRINGDON STREET, E.C.



COMFORT FOR THE FEET.

Corns and Bunions may be removed, and enlarged Toe Joints reduced, by using *Thompson's New French Corn Plaster*. Sole Proprietor, M. F. THOMPSON, Homœopathic Chemist, 17 GORDON STREET, GLASGOW, from whom the Plaster may be had in Packets, by post, for fourteen stamps. Those who are troubled with the discomfort of Corns or Bunions will be glad to have attention called to this remedy, as it removes pain very speedily. It is a simple Plaster, thin as silk, and comfortable to the foot.

Ask your Chemist for it, and take no Substitute.

Wholesale 9/6 per dozen, cash with order, post free.
May also be obtained through London Wholesale Houses.

Walking is now really a pleasure to me.

It is put up on Cards. "Very saleable."

"Cream of Magnolia."

MATCHLESS FOR THE COMPLEXION.

A Marvellous and Unique Preparation for Softening, Toning, and Beautifying the Skin.

INVALUABLE for removing Spots, Sunburns, Blotches and all Imperfections.

IMPARTS A VELVETY SOFTNESS AND BLOOM.

Renders it Beautiful to the Eye, and deliciously soft to the Touch. Can be used with the most perfect safety to any child or infant.

In Bottles, post free, 2s. 6d., 4s., 7s., and 10s. 6d., or Sample Bottles, post free, 1s. 3d., direct from the Proprietor.

JOHN STEEDMAN,
47 FULHAM ROAD, LONDON, S.W.

ESTABLISHED 1836.

Ladies once using this Preparation will never be without it.

BRODIE'S IMPERIAL HAIR DYE.

(REGISTERED.)

ONE LIQUID. — Harmless, Perfect, Permanent, and Odourless. Clear, and without Sediment.

Guaranteed to contain no lead, or any other noxious ingredient.

BLACK, BROWN, LIGHT BROWN, OR GOLDEN.

TRADE PRICE LIST:—

No. 1.	1s. 0d. size	--	--	7s. 0d. per doz. Nett
No. 2.	2s. 6d. "	--	--	17s. 6d. "
No. 3.	3s. 6d. "	--	--	24s. 6d. "
No. 4.	5s. 0d. "	--	--	35s. 0d. "
No. 5.	10s. 6d. "	--	--	72s. 6d. "

J. BRODIE, 41 Museum Street, LONDON, W.C.

BEST AND SAFEST

DENTIFRICE

RETAIL—

No 0 Loose...	0s. 8d. each.
" 1. In tins	1s. 0d. "
" 2. Glass...	2s. 6d. "

Wholesale of all the leading houses throughout the world.

OVER
2,000
TESTIMONIALS



PENNY PACKED GOODS.

INSECT POWDER
REFINED BORAX
MAGNESIA
STARCH GLOSS
CAMOMILE FLOWERS
SENNA LEAVES
PLASTERS
BAKING POWDERS
EGG POWDERS

BOXED AND CARDED

COCOA NUT OIL POMADE. KID REVIVER.
ORIENTAL POMADE. DUBBIN.
In Gold Lacquered Tins.

Our Penny Packed Goods cannot be beaten, either for Quality or Style. Samples and Quotations with pleasure. State what quantities.

R. H. JESSOP & CO.

Wholesale Druggists,
HALIFAX.

GLYCERINE
CASTOR OIL
CAMPHORATED OIL
COMPOSITION ESSENCE
TOOTHACHE TINCTURE
HAIR OIL
MACHINE OIL
FURNITURE CREAM
NATIONAL RELISH

CARDED, BOXED, OR PARCE

M. BAILEY & CO. MANUFACTURERS OF DRUGGISTS' SUNDRIES.

M. B. & Co. beg to call the attention of the Trade to the following articles manufactured by them:—

Glass Syringes, Nipple Shields, Breast Exhausters, Fittings for Feeding Bottles, Tubes, and Tube Work in all its branches, &c., &c.

Sole Proprietors and Manufacturers of J. Brooks & Co.'s celebrated Specialties:—Winter Cream, Lip Salve, Solidified Camphor Cream, Glycerine Jelly, Perfumery, &c., &c.

Buyers are cautioned against imitations of these World-renowned preparations. None are genuine unless bearing our Registered Trade Mark.

MAY BE OBTAINED THROUGH ANY OF THE WHOLESALE HOUSES. WHOLESALE AND EXPORT ONLY FROM

M. BAILEY & CO., 32 and 34 Buckingham Road, KINGSLAND, N.



SHIRLEY'S A 1 BRAND MENTHOL CONES



The Chemist and Druggist says:—Mr. Arthur W. Shirley has produced a very attractive biscuit china figure, represented in the annexed engraving. The advertisement is effective without being at all vulgar, and the little crier, we expect, will soon be a familiar figure about the country.

Start the New Year well by laying in a stock of Saleable Goods, such as **MENTHOL CONES**, especially as by ordering 25/- worth of the **A 1 BRAND** you can secure one of the charming little China Criers (or, if 40/- order is placed, Two Figures will be given), now so well known about the country. Any Chemist who has not one cannot do better than order it, as it is an ornament to any shop.

The following special parcels have been arranged to suit all classes of trade:—

PARCEL 1. 25/. 4 doz. 2d. 1 doz. 3d. 2 doz. 3½d. 3 doz. 4d. 2 doz. 6d.	PARCEL 2. 25/. 4 doz. 6d. 2 doz. 4d. 1 doz. 1s.	PARCEL 3. 25/. 3 doz. 3d. 2 doz. 1s. 1 doz. 4d.	PARCEL 4. 25/. 1 doz. 9d. 2½ doz. 1s. ½ doz. 1s. 6d.
PARCEL 5. 40/. 4 doz. 2d. 2 doz. 3d. 3 doz. 3½d. 5 doz. 4d. 4 doz. 6d.	PARCEL 6. 40/. 5 doz. 6d. 3 doz. 4d. 2½ doz. 1s.	PARCEL 7. 40/. 4 doz. 6d. 4 doz. 4d. 1 doz. 9d. 2 doz. 1s.	PARCEL 8. 40/. 4 doz. 1s. 2 doz. 9d. ½ doz. 1s. 6d.

THE FOLLOWING CAN BE RECOMMENDED AS GOOD VALUE:—

No. 112. Boxwood Draughtsman ... 3/3 doz.	SPECIAL LINE.
" 113. " Cartridge ... 3/6 "	17F. Very flat large
" 113R. " Reversible ... 3/6 "	Boxwood, a perfect
" 111. " Acorn, large ... 7/ "	pocket shape, 5/ doz.
" 8P. " " small ... 3/3 "	

The following have directions printed on the cases:—

No. 6. Boxwood Pedestal ... 3/6 dozen.	No. 17s. 6d. Boxwood Draughtsman ... 3/9 dozen.
" 11A. " " ... 3/ "	" 17L. 1/ " " ... 6/6 "
" 14A. " " ... 6/3 "	" 9s. 6d. " Skittle ... 3/6 "

Buyers of a gross and upwards can have their own Name and Address printed on any of above, free of charge.

PARTICULARS ON APPLICATION.

1d., 2d. and 3d. **MENTHOL CONES** for those who are obliged to sell Cheap Lines.



No. 110.



110V.



110P.



No. 115



No. 111.

No. 110. 1d. Bottle shape ... 3 dozen on card, 7/ gross.
" 110V. 1d. Vase " ... 3 " " 7/3 "
" 110P. 1d. Pedestal " ... 3 " " 7/9 "
" 114. 2d. Pedestal, varnished 3 " " 16/ "
" 115. 3d. Draughtsman shape 2 " " 20/ "

Above are carded by means of elastic—not glue.

SPECIAL QUOTATIONS TO LARGE BUYERS.

ARTHUR W. SHIRLEY, 30 PATERNOSTER SQUARE, LONDON, E.C.

OUR "LITTLE BEAUTIES" FEEDING BOTTLES.

BOTTLES ARE GOOD.

INDIA-RUBBER IS GOOD.

ALL FITTINGS ARE GOOD.



PRICES ARE LOW, AND
THE BOTTLES ALWAYS
SELL WELL WHEREVER
INTRODUCED.

ALL FITTED WITH BLACK TUBE AND TEATS.

No. 480.—White Glass, Screw Stopper, each in box, with Tube and Bottle Brushes, and spare Glass Tube (usual 1/6 Feeder) ...	5/6 per doz.			
„ 480/1.—Green Glass, Screw Stopper, fitted, loose...	2/9	„	In wood boxes of 1 doz.,	3/ per doz.
„ 480/2.—White Glass, Box Top Cork, fitted, loose...	2/6	„	„	2/10 „
„ 480/3.—Green Glass, Box Top Cork, fitted, loose...	2/3	„	„	2/7 „
„ 480/4.—Quinine Tint, Screw stopper, fitted, loose...	3/	„	„	3/3 „
„ 608.—Anti-Corrosive Feeders, finest hand-made Bottle, in box, with Tube and Bottle Brushes, best and cleanest Feeder made ...	13/	„		

FEEDER FITTINGS.

White Glass Screw Neck Bottles ..	2/ per doz.	Tube Brushes	...	2/3 per grs
„ Plain	1/1	Glass Tubes	...	1/
Quinine Tint Screw	1/11	Bone Shields	...	2/
Green Glass Screw	1/9	Unions, Glass	...	4/
„ Plain	11d.	„ Earthenware	...	4/
India Rubber Tube, best Black	7/ per lb.	„ Wood	...	7d.
„ White	3/	Box Top Corks	...	2/9
Bottle Brushes	3/6 per grs.	Screw Glass Stoppers	...	4/

Special quotations given for large quantities, and large buyers may have their own names on the bottles. Any quantity of bottles from $\frac{1}{2}$ gross may be had with buyer's name at a cost of 7/6 for plate on first order.

HYPODERMIC SYRINGES.

All in neat Cases, Spring Catch.

No. 102.—Vulcanite Mounts, 2 Steel Needles ...	2/ each.
„ 103.—Nickel-plated Mounts and 2 Needles ...	2/6 „
„ 103A.—With nickel-plated Mounts and Bars to protect the Barrel, 2 Needles ...	3/6 „
„ 104.—With Barrel enclosed in nickel-plated Mount, with slot for reading, 2 Needles ...	3/6 „
„ 105.—With pure aluminium Mounts, Graduation on Barrel, and 2 Needles ...	5/6 „
„ 106.—Nickel-plated Mounts, with movable Barrel, spare Barrel, and 2 Needles ...	4/ „
„ 107.—Superior Velvet-lined Case, with 4 nickel-plated mounted Bottles, ebony Plugs, a very superior Syringe, and 4 Needles ...	9/ „
„ 107A.—In plated Case for pocket, 10 minims, very portable ...	5/6 „

Hypodermic Syringes subject to 15 per cent. discount.

FULLER'S EARTH.

No. 626.—In elegant Enamelled Tin Box, suitable for Puff Box, 1 doz. outer ...	3/3 per doz.
1d. boxes, 6 doz. in outer ...	4/ per grs.
3d. round boxes, Bird pattern ...	1/4 per doz.
6d. „ „ „ ...	2/ „

GLYCERINE SYRINGES.



All best make.

No. 821.—All Glass	...	3/6 per doz.
„ 822.—Glass, with Vulcanite Pipe, cheap form...	...	6/6 „
„ 827.—Vulcanite Mounts, Glass Barrel, best make	...	11/ „
„ 828.—Vulcanite Mounts, Glass Barrel, Metal Piston Rod and Ring	...	12/6 „
„ 829.—All Vulcanite	...	12/6 „

Each in a nice box, 6d. per doz. extra.

CLINICAL THERMOMETERS.

In Cases complete.

No. 43.—*Indestructible Index, best make	...	2/
„ 44.—* „ „ Miniature	...	2/
„ 45.—*Magnifying „	...	5/
„ 46.—Flat Back, will not roll, for Hospital use	...	2/
„ 47.—Thermometer for Nurse's use	...	1/9
„ 48.—India Rubber Guards for Hospital use	...	1/9

New Certificates for those marked * 1/3 each extra.

HOCKIN, WILSON & CO.,

13 to 16 NEW INN YARD, 183a TOTTENHAM COURT ROAD, LONDON, W.

A Copy of this Supplement is inserted in every number issued of "The Chemist & Druggist."

The Chemist and Druggist

SUPPLEMENT

Businesses Wanted.
Businesses for Disposal.
Premises to Let.
Auction Sales.

SATURDAY, DEC. 28, 1889.

Partnerships.
Situations Vacant.
Situations Wanted.
Miscellaneous.

This Supplement will be given free to any Chemist and Druggist or Assistant who will call for it at 42 Cannon Street on Friday afternoon, or will be posted on Fridays to any one who sends an addressed postal wrapper.

OFFICES: 42 CANNON ST., LONDON, E.C.

ADVERTISEMENTS for this Supplement can be received on FRIDAY MORNING, first post, though it is requested that these may be sent in as early in the week as possible.

EXCHANGE COLUMN ADVERTISEMENTS will appear on page 10 (bottom folio), and must be received not later than THURSDAY AT NOON, to appear in the next issue.

All Advertisements for this Supplement and Exchange Column must be prepaid. Remittances payable to EDWARD HALSE and crossed MARTIN & CO.

CHEMISTS' TRANSFERS.

MESSRS. ORRIDGE & CO., 32 LUDGATE HILL, E.C.

CHEMISTS' TRANSFER AGENTS,

May be consulted at their Offices on matters of SALE, PURCHASE, and VALUATION.

The business conducted by Messrs. ORRIDGE & Co. has been known as a Transfer Agency since the year 1813, and is well known to all the leading firms in the Trade. VENDORS have the advantage of obtaining an opinion on value derived from extensive experience, and are in most cases enabled to avoid an infinity of trouble by making a selection from a list of applicants for purchase, with the view of submitting confidential particulars to those alone who are most likely to possess business qualifications and adequate means for investment. PURCHASERS who desire early information regarding eligible opportunities for entering business will greatly facilitate their object by describing clearly the class of connection they wish to obtain.

1.—£800.—LONDON, W.C.—Good-class Dispensing and Retail, situate in main road, in large business centre; returns £800 yearly; gross profit 50 per cent.; handsomely-fitted shop; price £800.

2.—£1,100.—LONDON SUBURB, S.W.—An old-established Business; average returns from mixed trade over £1,100 yearly; good opportunity for a pushing man; comfortable house, with garden; rent very moderate; price £800.

3.—£300.—LONDON, S.E.—Prescribing and Retail Business; corner shop, situate in a busy market neighbourhood; the business has been much neglected; returns a little over £300 yearly; good opening for Dentistry; price £150.

4.—£450.—LONDON, N.E.—Family Retail and Dispensing; established many years; returns £450; profits good; handsome shop, fitted by Treble; good working stock; very good house and garden; price about one year's returns.

5.—£1,200.—EASTERN COUNTIES.—Good market town; General and Mixed Business; established over 50 years; returns £1,200 yearly, with good profits; large shop, well fitted, and good stock; price £850 about.

6.—£1,000.—MIDLANDS.—Fashionable locality; Retail Dispensing Business; returns over £1,000 yearly; well-stocked shop, and good house; on lease; valuation only.

7.—£1,000.—PARTNERSHIP.—A partner required in very old-established Retail and Wholesale Business, situate in the Midlands; a gentleman who would not object to travel preferred; about £1,000 required, for which full value is offered.

8.—£1,150.—WESTERN COUNTY.—Old-established Dispensing and Retail Business, with Wine Agency; situate in best position in good market town; returns about £1,150; very profitable; good house and large garden, held on moderate rental; price about £1,600.

9.—£800.—PLYMOUTH.—Attractive and good position; old-established good-class Retail and Dispensing Business; returns over £800, with profits above the average; large handsome double fronted shop, and good stock; about £500 required.

10.—£2,000.—OXFORDSHIRE.—Mixed Business; returns about £2,000 yearly; business suited to a good business man who will do a pushing trade; price about £1,200.

11.—£500.—SOUTH OF ENGLAND—SEAPORT.—Retail and Prescribing Business; established many years; present rate £500 yearly; good prices; well-fitted shop; good-sized house, with garden; very moderate rent; price £450 or offer.

12.—£600.—SOMERSET.—Good town; select good-class Business, admitting of great extension; returns £600 yearly; good prices; well-fitted shop and large house; rent low; price £550.

Particulars of any of the above will be furnished on application.

N.B.—NO CHARGE TO PURCHASERS.

Other Businesses, Town and Country; particulars free on application. Personal applicants receive Messrs. O. & Co.'s direct attention and advice, where required, free.

TERMS FOR VALUATION ON APPLICATION. APPOINTMENTS BY POST OR WIRE HAVE IMMEDIATE ATTENTION.

Messrs. ORRIDGE & Co. invite communications from COLONIAL and FOREIGN firms where business of a confidential nature requires the especial attention of a London agent.

SPECIAL NOTICE.—TO PRINCIPALS AND ASSISTANTS.

MESSRS. ORRIDGE & Co. Register Vacancies for Situations FREE OF CHARGE.

ORRIDGE & CO., 32 Ludgate Hill, LONDON, E.C.

F. J. BRETT, VALUER, LEICESTER,

60 St. Stephen's Road.

References to principal London and Provincial Wholesale Houses, also to numerous clients throughout the United Kingdom.

BUSINESSES THOROUGHLY INVESTIGATED FOR BUYERS. 20 YEARS' EXPERIENCE.

YORKSHIRE.—Village Retail; neglected; good premises, large garden; rent £20; one room let for £6; price £60.**LIVERPOOL.**—Good-class Retail; returns about £300; price £170.**WEST.**—Light Retail, Dispensing and Prescribing; no heavy trade; returns £900; price £700, or valuation and small goodwill.**SURREY.**—Light unopposed Retail, with Gilbey's Agency; returns £1,200; price £800.**LANCASHIRE.**—Very profitable Retail; returns £850; vendor retiring; price £750.**YORKSHIRE.**—Good-class Light Retail, in good position, with ample scope for Mixed trade; returns £450; price £300.**GLOUCESTERSHIRE.**—Light Retail, with excellent Specialties, having a large sale, in best position of fashionable town; returns £900; price £850, or valuation of stock and fixtures.

MESSRS. BERDOE & CO.

CHEMISTS' TRANSFER AGENTS & VALUERS,
30 JEWRY STREET, ALDGATE, E.C.
Established 1870.

NO CHARGE TO PURCHASERS

MESSRS. BERDOE & CO. have for Transfer:—

SURREY (30 miles out)—Retail, Dispensing, and Prescribing Business; same hands 28 years; returns £1,000; full prices; net profit £450; price £1,000; good introduction given.**WEST OF ENGLAND.**—Market town; good-class Retail and Dispensing Business; returns £1,250; good house, large garden, handsomely fitted shop heavily stocked; price £1,000 or offer.**CHESHIRE.**—Retail and Dispensing; same family 50 years; returns £950; net profits £325; price £550 or offer.**NOTTS.**—Branch Business, under Manager; returning £900; principal must increase; rent £35; price £600 or offer.**DERBYSHIRE.**—Retail Dispensing and Prescribing with Agricultural; returns £1,600; price £850, or valuation.**SWANSEA.**—Good position; Retail Dispensing and Prescribing; returns £900, increasing; good house and garden; price £350.**LINCOLNSHIRE.**—Retail Prescribing and Agricultural; returns £1,200; same hands 10 years; large house; price £700 or valuation.**SOMERSET.**—Good-class Retail; changed hands once in 40 years; returns £650; net profit £370; rent £30; price £450.**LONDON, N.W.**—Same hands 20 years; Retail and Dispensing trade; returns £700; net profit £300; price £350.**LONDON.**—Several thoroughly genuine ready-money Retail, capable of increase; prices from £75 to £300, part can remain.*Terms for Valuation and Sale on application.*

Messrs. Berdoe & Co., 30 Jewry St., Aldgate, London, E.C.

BUSINESSES FOR DISPOSAL.

3s. 6d. for fifty words; 6d. for every 10 words beyond.

FOR sale, the old-established Family and Dispensing Chemist's and Mineral Water Business at Selby, in Yorks, successfully carried on for 40 years by Messrs. Cutting & Son, with the freehold of the premises; the shop is well fitted, and the mineral water plant partly new. For terms, &c., apply to Union Bank, Easingwold.**IMMEDIATE.**—Proprietor will sell to cash purchaser very old-established Light Retail Business for valuation of stock and fixtures; a great sacrifice on cost price; good market town, population 8,000; ample scope; rent low; exceptional opportunity for young man to settle permanently on most favourable terms. "Vendor," 1 Bradford Street, Shrewsbury.

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BUSINESSES WANTED.

3s. 6d. for fifty words; 6d. for every 10 words beyond.

SEVERAL good-class Retail and Dispensing Businesses in town and country, returning £800 to £1,500; clients waiting with the cash. Full particulars received, in strict confidence, terms on application, Messrs. Berdoe & Co., 30 Jewry Street, Aldgate, London, E.C.

TENDERS.

BOROUGH OF BRIGHTON.

NOTICE is hereby given that the Town Council will receive TENDERS from such persons as may be willing to enter into a contract for the supply of the Disinfectants required by the Corporation for one, two, or three years from January next.

The Specification and Forms of Tender may be obtained at the office of the Borough Surveyor, Mr. Francis J. C. May, at the Town Hall, Brighton. Sealed Tenders, addressed to me, and endorsed "Tender for Disinfectants," must be left at my office, at the Town Hall, before 4 o'clock on Wednesday, the 8th day of January, 1890.

Power is reserved to reject the lowest or any tender.

Town Hall, Brighton,
December 19, 1889.FRANCIS J. TILLSTONE,
Town Clerk.

TO LET.

3s. 6d. for fifty words; 6d. for every 10 words beyond.

TO LET.—Spacious premises, especially suitable for a Chemist and Druggist, in a commanding terrace of 25 shops, situate in the busiest and most rising thoroughfare in the South of London; large neighbourhood; splendid opening; the only shop unit; good house accommodation for a substantial tenant; rent £90. Apply, Mr. Jenkin, 28 Queen's Parade, Clapham Junction, S.W.

SITUATIONS OPEN.

3s. 6d. for fifty words; 6d. for every 10 words beyond.

WANTED, single (indoor) Assistant. State experience and salary required to Chas. M. Footitt, Chemist, Marlow, Bucks.**WANTED,** at once, energetic Assistant, able to manage Branch; Mixed; able to extract teeth; indoors. Apply, John Snowden, Chemist, Blackwell Gate, Darlington.**INVOICE** Clerk, used to the Wholesale Drug and Patent Medicine Business; must be quick at figures and a good penman. Apply, stating references and salary required, to Goodall, Backhouse & Co., Leeds.**OUT-DOOR.**—Immediately after Christmas, an active and experienced Assistant for the Dispensing counter. Apply, with photo, stating age, height, and experience, to E. J. Kitson, Broad Street, Worcester.**WANTED** immediately, a good active Junior for Drug Business, also Oils and Colours; outdoor; no Sunday duty. Applicants will oblige by giving full particulars. Francis, Bursley.**ASSISTANT** (outdoor), in good-class Mixed Business; must be good Dispenser; one with a knowledge of photography preferred. Applications with references to W. Aston, The Terrace, Tarporey.**WANTED,** for January 1, a gentlemanly Junior, well up in Dispensing; London experience preferred; indoors; time allowed for reading; enclose photo. W. R. Howard, 4 Napier Road, Kensington, W.**IMMEDIATELY,** a Junior, used to Mixed Country Business; active, quick, and obliging. Apply, with full particulars, enclosing photo, with age, height, reference, and salary (indoors), "Revilo," 43 Gabriel's Hill, Maidstone.**A GENTLEMANLY** Assistant, about 22 years of age, in a high-class Homœopathic Dispensing business; abstainer preferred. Write full particulars, qualifications, salary, &c., with photo, to Gillett, 18 Leyland Road, Southampton.**WANTED,** immediately, for pushing business. Junior or Improver, about 18; must be active, energetic, and obliging; state age, salary, and reference, enclosing photo. J. & J. Thompson & Co. (Limited), 192 Manchester Street, Oldham.**IMMEDIATE.**—A medical man in Western Australia wishes to engage a thoroughly competent Assistant, to devote his time to the management of a Chemist's business, and to attend to minor surgical cases, extract teeth, &c.; unexceptionable references required, and no one need apply whose character will not bear the strictest investigation; preference given to the holder of a Surgical as well as a Chemist's qualification; salary progressive, £150—£200 (outdoors), and percentage of profit; 3 years' agreement. For further particulars, apply, by letter, to John Richardson & Co., Manufacturing Chemists, Leicester.

TO DISPENSERS.—Wanted at once, a Dispenser (outdoors), must be qualified and under 35 years of age; no Sunday work. Apply by letter, stating experience and salary required, to B. I. W., 136 Queen Victoria Street, E.C.

TO Parents and Guardians.—Messrs. Wells & Wedburn, Dental Surgeons, can offer unusual advantages to a well-educated youth as a pupil with a view to preparing him for the L.D.S. Lond. 88 Westow Hill, Upper Norwood, S.E., and Beckenham.

EARLY in January. Senior or Managing Assistant, not under 30, indoors, for a first-class Cash Business; eight kept; must be able to take sole charge in the absence of proprietor; none but thorough business men, with good references and seeking permanency, need apply (personal) to J. H. Lewis, 22 and 24 Great Portland Street, W.

WANTED, for India, healthy climate, General Assistant Chemist, age about 24; strong, healthy, steady, trustworthy, pushing salesman; nature of business General Dispensing Chemist, also Wines, Stores, Fancy Goods &c.; 3 years' engagement; free quarters; salary first year 125 rupees a month, rising to 150 rupees a month. Apply, with photo, and copies of testimonials, for transmission to India, 205/62, Office of THE CHEMIST AND DRUGGIST, 42 Cannon Street, E.C.

OUTDOORS.—Two qualified Assistants required for two Pharmacies under personal supervision of principal; must be neat and industrious workers, and obliging to customers; competent to dispense, and trustworthy; hours from 8.30 to 10.30, but about 18 hours per week allowed off, inclusive of meal-times; Sunday duty, evenings only as a rule, and one off per month. Apply personally, or, if by letter state age, salary required (outdoors), and full particulars, 529 Battersea Park Road, S.W.

DISPENSER wanted for Paddington Workhouse and Infirmary; salary £100 per annum, rising by £10, after each year's approved service to £140, together with dinner and tea daily. Applications must be made on forms which may be obtained of the undersigned, and must be sent in on or before Tuesday, the 7th proximo.
Guardians' Offices, 289 Harrow Road, W.
24th December, 1889.

By Order,
HENRY F. AVELING,
Clerk to the Guardians.

SITUATIONS WANTED.

1s. for twelve words; 6d. for every six words beyond.

AS Junior; 5½ years' experience; aged 20. A., 160 Upper Brook Street, Manchester.

AS Assistant (22); 7 years' experience; good references. J. Snaith, 57 Adelaide Street, Southport.

PART-TIME Surgeon or Chemist; 5 ft. 7 in.; near City preferred. A. B., 53 Penge Road, South Norwood, S.E.

ASSISTANT; 11 years' experience; abstainer; moderate salary; disengaged. "Chemicus," Tasker St., Walsall.

ASSISTANT or Manage Branch; single; unqualified; indoors; per manency preferred. Lumbus, Aston, Nantwich.

JUNIOR (21); 5 years' experience; good recommendation; height 5 feet 11 inches; disengaged. Tack, Wells, Somerset.

ADVERTISER (28), tall, married, one child, thoroughly experienced, seeks suitable berth. "Medical," care of Mr. Membury, Yeovil.

WHOLESALE or Retail; experienced Assistant; aged 32; fluent French. D., Rosebank Cottage, Linkfield Lane, Reohil, Surrey.

ASSISTANT or manage Branch; aged 24; abstainer; good references. F. Welborn, care of P. Hall, Chemist, Grey Street, Newcastle-on-Tyne.

MANAGER; experienced; qualified; single; references; duty faithfully discharged. A. Morton, 9 Oxford Street (St. Peter's), Manchester.

MANAGER or Assistant; aged 39; married; Minor qualification; 20 years' experience; good references. Alpha, 45 Adelaide Street, Southport.

ASSISTANT or Manager; 26; temporary or permanent; thoroughly experienced; 3 years' reference. "Chemicus," 10 Adelaide Street, New Shildon, Durham.

JUNIOR; 19½; 5 years' experience; abstainer; references; Preliminary. "Improver," Office of THE CHEMIST AND DRUGGIST, 42 Cannon Street, E.C.

ABOUT January 7, part time, London engagement, indoors preferred, by competent, highly recommended Assistant; aged 23. Tanton, Messrs. Fardon's, Maidstone.

IMPROVER; 18; doctor's son; 18 months' apprenticeship; satisfactory reference; passed Preliminary; Preceptors; indoor. W., 92 Lawrence Road, Southsea.

ENGAGEMENT wanted, immediately; experienced, steady, and reliable; aged 42; single; good dispenser; highest references. E. S., 56 Marquess Road, Canonbury.

AS Manager or Senior Assistant; outdoors; 13 years' experience; first-class references; good berth abroad or in stores not objected to. Address, Watkins, Office of THE CHEMIST AND DRUGGIST, 42 Cannon Street, E.C.

ASSISTANT, part time, near Square or College; careful Dispenser, Prescriber; fair French; phonographer; abstainer; nearly 23; well recommended. "Pericarp," Office of THE CHEMIST AND DRUGGIST, 42 Cannon Street, E.C.

ASSISTANT or Manager (27); first-class retail and good practical experience; Minor qualification; neat writer; disengaged January 6; references. "Chemist," C. Laing, Esq., 16 Regent Terrace, Newcastle-on-Tyne.

A COMMISSION MERCHANT, with several years' experience in the Wholesale Drug Trade in New York, would be pleased to hear from anyone who may wish a reliable and experienced Agent to represent them in the United States, to introduce and sell specialties or staple articles in the Drug and Chemical line; good London references can be given. Address, "Manhattan," 25 Morland Road, Croydon.

MISCELLANEOUS.

Special charges are made for Advertisements under this heading, which can be obtained on application.

TO Sell, £500, French and English Patents for a new Feeding Bottle; a fortune to be made in short time. Write to H. Maquet, 3 Rue Volney, Paris.

DENTISTRY.—First-class Mechanical work undertaken for the Profession at moderate terms; good West-end references as to ability, &c.; punctuality guaranteed. W. E. Hill, 220 High Holborn, W.C.

PRELIMINARY AND MINOR.

ALL Students who are preparing should send for particulars of a method of study which will enable them to pass with ease. Enclose stamped envelope to Mr. J. Tully (Hills Prizeman), Chemist, Hastings. Established 1872. References to past and present Pupils. Student's Herbarium, 100 specimens, 7s 6d., post free.

STUDENTS' AIDS TO EXAMINATION.

PRELIMINARY.—Arithmetic and Metric System, 1s. How to Write an Essay, 3d. Caesar Simplified, 1s. Knotty Points in Latin Grammar, 1s. 6d. **MINOR.**—Equations Simplified, 1s. Illegible Antographic Prescriptions, 1s. Notes on Dispensing, 1s. Prescriptions given at the Minor, 6d. "Chemist," care of Mr. J. Edwards, Wye, Kent.

THE LONDON HOMŒOPATHIC HOSPITAL AND MEDICAL SCHOOL, GREAT ORMOND STREET.

A NEW WARD, unoccupied for want of funds, is much needed for Mal Patients, and will be opened so soon as sufficient funds to support it are received. The Hospital now contains eighty beds. Trained Nurses are sent out at moderate fees for Medical, Surgical, or Accouchement cases, the latter specially Certified. A. OROSBY, Secretary.

A PRACTICAL MANUAL OF VENEREAL AND GENERATIVE DISEASES:

Including SPERMATORRHOEA, PROSTATORRHOEA, IMPOTENCE, and STERILITY in Both Sexes.

As the First Edition is entirely exhausted, and as there is a constantly increasing demand for this work, the author is passing a Second Edition, with Illustrations, through the press, which will be ready early in August.

By M. K. HARGREAVES, M.D.

Assistant Physician to St. John's Hospital for Diseases of the Skin.

LONDON: R. KIMPTON, 162 WARDOUR STREET, LONDON, W.



SUPPORT HOME INDUSTRIES AND YOURSELVES.

SAVARS FEEDING BOTTLES

Are of British Manufacture throughout.
ARE SOLD ONLY TO REGISTERED CHEMISTS.

SAVARS GRADUATES, MEDICINE GLASSES, &c.,

Are of British Manufacture.
ARE SOLD ONLY TO REGISTERED CHEMISTS.

SAVARS ENEMAS, SYRINGES, &c.,

Are of British Manufacture.
ARE SOLD ONLY TO REGISTERED CHEMISTS.

SAVARS TRUSSES, BANDAGES, BELTS, ELASTIC

GOODS, &c., are of British Manufacture.
ARE SOLD ONLY TO REGISTERED CHEMISTS.

SAVARS PLAISTERS, including Rubber Combination,

Are of British Manufacture.
ARE SOLD ONLY TO REGISTERED CHEMISTS.

SAVARS ABSORBENT COTTON WOOL

Is British Make.
IS SOLD ONLY TO REGISTERED CHEMISTS.

SAVARS FOSSILINE, a true Hydrocarbon Jelly,

Is Manufactured only by Undersigned.
IS SOLD ONLY TO REGISTERED CHEMISTS.

SAVARS PERFUMERY, POMADES, TOILET REQUI-

SITES, HOUSEHOLD REQUISITES, and Proprietary Articles generally
ARE SOLD ONLY TO REGISTERED CHEMISTS.

HAWLEY'S COUNTER ADJUNCTS.

Special Pharmaceutical and other useful preparations, artistically labelled, and, where desired, with Chemist's own name and address. For full list see Pamphlet, "List of Counter Adjuncts," supplied gratis on receipt of Business Card.

SOLD ONLY TO REGISTERED CHEMISTS.

LIVERPOOL:

EVANS, SONS & CO.

LONDON:

EVANS, LESCHER & WEBB.

CANADA:

EVANS AND SONS (LIMITED).

MAW'S EARTHENWARE INHALERS

For Hot Water, Infusions, &c.



FIG. 8.

MAW'S IMPROVED.



FIG. 6.

MAW'S DOUBLE-VALVED.



FIG. 8a.

MAW'S IMPROVED.

Fig. 6.—Double-Valved, 60/- per dozen; with Elastic Tubes, 78/-

Fig. 8.—Marbled, 32/ per dozen.

Fig. 8a.—White, 21/- per dozen.

Fig. 8a.—White, half size, 13/- per dozen.

ELASTIC TUBES, with Mouthpieces, to fit Fig. 8 and 8a, 7 inches long, 8/- per dozen; 9 inches long, 12/- per dozen.

SPECIAL QUOTATIONS TO WHOLESALE BUYERS.

MANUFACTURED BY

S. MAW, SON & THOMPSON, LONDON.



ROBINSON'S LIEBIG'S BEEF WINE.

Composed of Liebig's Extract of Beef, Extract of Malt,
and sound Port Wine.

REPORT ON BEEF WINES.

From the results of my Analyses of various Beef Wines I have had occasion to examine, none have equalled as regards strength, purity of ingredients, and (of no less importance) the skilful and judicious manner in which the respective ingredients have been proportioned and combined, the Liebig's Beef Wine manufactured by Mr. B. ROBINSON, of Pendleton, Manchester.

It is in every sense a reliable preparation, embodying in a pleasing and palatable form all the acknowledged medicinal and nutritive properties pertaining to Liebig's Extract of Meat, Extract of Malt, and sound Port Wine.

WILLIAM ELBORNE, F.C.S., F.L.S.,

Lecturer on Materia Medica in the Owens College, Manchester (Victoria University).
December 15, 1888.

Introduced 1855.

ROBINSON'S CONCENTRATED WATERS.

Introduced 1855.

One Ounce of these Waters added to Forty Ounces of Distilled Water forms a clear Medicated Water (without filtering), similar in every respect to those prepared according to the directions of the British Pharmacopoeia, and free from all Chemical Impurity. They will keep good any length of time in any climate.



Aqua Anethi, Concent., 4/ lb.	Aqua Cinnam. Ver. Concent., 6/ lb.	Aqua Foeniculi, Concent., 4/ lb.	Aqua Pimentae, Concent., 4/ lb.
" Anisi " 4/ "	" Cassia " 4/ "	" Ment. Pip. " 4/ "	" Rose " 8/ "
" Camphorae " 4/ "	" Flor. Aurant. " 8/6 "	" Ang. " 8/ "	" Rose Virgin. " 10/6 "
" Oarui " 4/ "	" Flor. Sambuci " 8/6 "	" Virid. " 4/ "	

The above are put up in Bottles of 1 lb. or 1 lb. and upwards, each of which has the Inventor's Protection Label over Cork.
From the LANCET, July 15, 1883:—"CONCENTRATED WATERS (Robinson's, Pendleton, Manchester).—Among the samples sent to us we find Aq. Anethi, Anisi, Cinnam. Ver., Rose, and some dozen of others. Diluted with forty parts of water they form the ordinary waters of the Pharmacopoeia. They are excellent in quality, and will be very useful, especially in country practice. [1]
Wholesale Agents: HARRISON & Co., London, and most Provincial Wholesale Druggists. PREPARED BY THE INVENTOR.
B. ROBINSON - MANUFACTURING CHEMIST, DISTILLER, AND BREWER OF BRITISH WINES, MANCHESTER

ROWNTREE'S

The "MEDICAL PRESS AND CIRCULAR":—

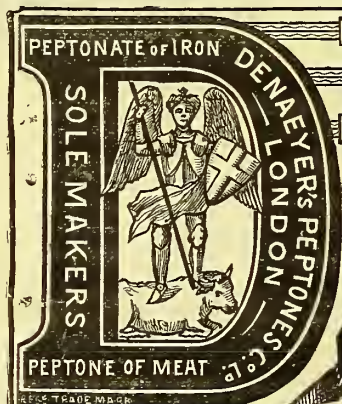
"Certainly this preparation is of delicate flavour . . . It is perfectly soluble . . . the small quantity required for the immediate production of a cup of excellent cocoa will ensure for this 'Elect Extract' a favourable reception at the hands of persons of weak digestion, and all who prefer this wholesome beverage to tea and coffee."



The "BRITISH MEDICAL JOURNAL" says:—

"Rowntree's Cocoa Extract is one of the best. Its flavour and aroma are good. Cocoa thus prepared is one of the most digestible articles of food."

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DENAAYER'S

LIQUID PEPTONES STERILIZED

Free from microbes!
Keep good for ever in all climates.
119 BISHOPSGATE STREET WITHIN, LONDON, E.C.

DENAAYER'S PEPTONATE OF IRON. A bland, non-irritating and most easily assimilable ferruginous preparation. For debilitated constitutions, children, and aged people.
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BRAND & CO.'S
PEPTONES
OF
BEEF,
MUTTON,
VEAL,
AND
CHICKEN.

To H.R.H. The Prince of Wales, The Empress of Germany, &c.

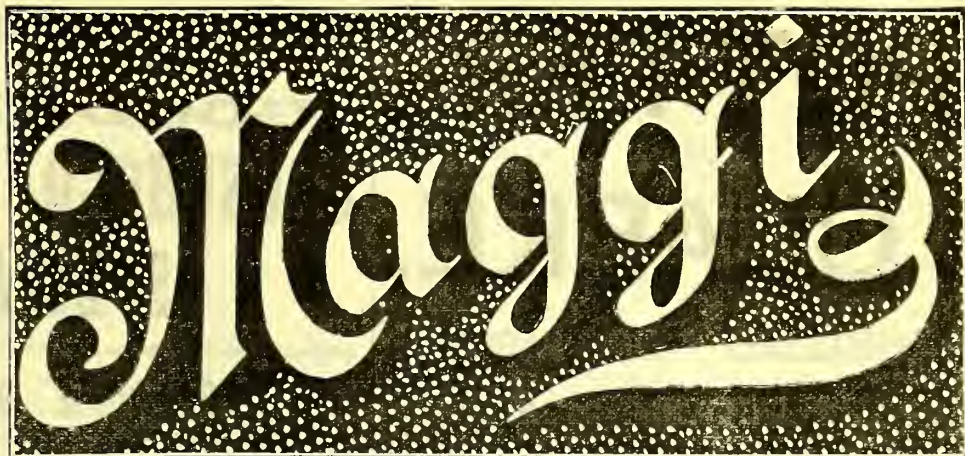


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LIQUID EXTRACT OF BEST FRESH BEEF.

A happy thought does not alone constitute a perfect invention; simplicity is needed to make it perfect.

"MAGGI" possesses this quality in a degree that renders it as indispensable in the kitchen as salt and pepper.

"MAGGI" is simply liquid EXTRACT OF BEEF, a teaspoonful of which, added to a cup of hot or cold water, makes at once a perfect BEEF TEA, which anyone, sick or well, will relish.

Two tablespoonfuls to a quart of water (adding Vegetables, &c.) will make a better Soup or Potage than hours spent over the fire.

The improvement in the quality of Gravies, Ragoûts, Stews, Hashes, Roasts, &c., by the addition of a few drops of "MAGGI," is amazing.

Unlike all other Extracts of Meat, "MAGGI" is most delicious, does not need the addition of salt and pepper, can be used by the most inexperienced, produces as good a Consommé or perfect Clear Soup as any first-class cook can prepare by the most elaborate and expensive means, and keeps good in any climate.

Soup Stock is now rendered unnecessary, as "MAGGI" is better, cheaper, and more nutritious for the sick, convalescent, and healthy.

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Our Process makes really "PURE Malt Vinegar" under 6d. per gallon, and requires no licence.

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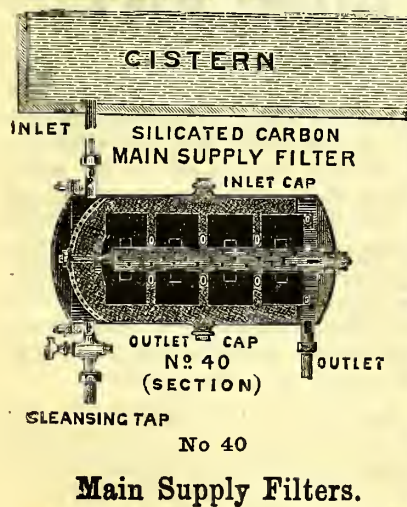
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J. & B.'s Syphons are mounted with **PURE BLOCK TIN**, thus ensuring absolute immunity from dangerous metallic contamination.

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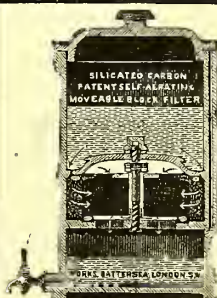
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PATENT SELF-AERATING
MOVABLE BLOCK
FILTERS.



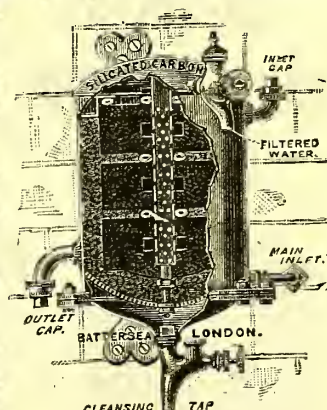
By the use of these Filters, which are of everyday sale, the Flatness of Taste so common in Filtered water is entirely Obviated.



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Domestic
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Constant Supply
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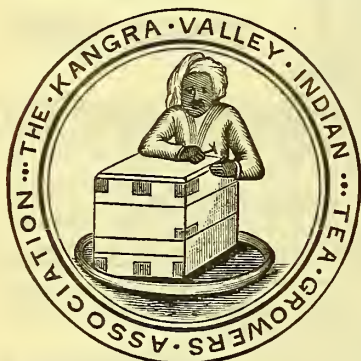
IS REPLETE WITH PLANT OF THE LATEST DESIGN FOR THE
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Our goods are sought after because—

They are *bright*, they *do not run together*, the *flavours are excellent*, they are made of *pure gum*, *contain no gelatine*, and because the public are asking for them.

Our prices bear comparison with any house in the trade.

T. BAGE BLYTON & CO., GORDON STREET, LOWER BROUGHTON, MANCHESTER.



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KANGRA VALLEY INDIAN TEA GROWERS' ASSOCIATION.

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Guaranteed to be Absolutely Pure, as supplied to Europeans in India.

Packed in 1-lb., ½-lb., and ¼-lb. Metallic Air-tight Packets.

No. 1, Orange Pekoe, at 4/ per lb. No. 2, Pekoe, at 3/ per lb. No. 3, Pekoe Souchong, at 2/6 per lb. No. 4, Souchong, at 2/ per lb.

Export Prices in Bond, 6d. per lb. less than above, in Chests of 50 lbs. and upwards, shipped free of charge. 50 lbs. Carriage Paid. No Travellers employed. Wholesale Terms and Tasting Samples on application.

These Teas are recommended to Chemists not only on account of their Purity, but because they are Less Astringent than other Indian Teas.

Savaresse's Capsules.

**SAVARESSE'S
CAPSULES.
SANDAL WOOD;
COPAIBA.**

Savaresse's Capsules of membrane, each containing 15 drops Pure Maranham Copaiba Balsam, or, also of membrane, each containing 10 drops Purest Yellow Sandal Wood Oil. The efficacy of these valuable medicines is due to the absolute purity of the Balsam or Oil, and to the very gradual solvability of the membrane as compared with gelatine.


Copaiba 2s. 6d., 18s. doz. Sandal, 4s. 6d., 36s. doz.

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EVANS, SONS & CO.
LIVERPOOL.



ARROWROOT.

EVANS'  BRAND has been sold for many years. It is specially selected, and each importation analysed, and can be confidently offered by Chemists.

PRICES.

1s. 2d. in 7 and 14 lb. Tins free.
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 This latter price is equal to 8s. per dozen ½ lb. Tins free, and 16s. per dozen 1 lb. Tins free.

For 6 dozen, name and address of Chemist printed free. [B]

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APPOINTMENT of AGENTS UNITED KINGDOM TEA COMPANY, LIMITED.

The Directors are entertaining applications for the Agency for the Sale of the Company's Teas. A liberal Commission will be allowed. The appointments will be found to be most valuable, entailing little, if any, trouble, in addition to which, from the very extensive nature of the Company's advertising in all the principal newspapers and periodicals throughout the country, the appointment will be the means of bringing large numbers of customers to the Agent, who, when buying the Teas, will at the same time purchase other articles.

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BY ROYAL LETTERS PATENT.

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Is the Best, Purest, and most Economical Agent for Acidulating all Saccharine Beverages.

Price only 10d. per lb., in 9 and 18 gallon casks; 1s. per lb. in small quantities.

One Ounce Measure is equal to One Ounce of Citric. It produces a higher class Beverage, and shows an economy of between £6 and £7 per cwt.

We do not ask for an order, we merely solicit the favour of a trial.

3-oz. Sample for Postage (3 stamps), or 14 lbs. on approbation.

PAMPHLET GRATIS.

UNSOLICITED TESTIMONIALS.

We are pleased to be able to testify that your Phospho-Citric Acid is satisfactory under the most severe trials. We have placed Manufactured goods in which your Acid was used in a refrigerator for months, and also for nine months in a stove in which the temperature stands at over 150° day and night, and the bottles when examined to-day were as bright as the day they were put in. ———, LONDON.

LEMON STREET, ABERDEEN.

I have pleasure in bearing testimony to the fact that first-class waters are produced, with greater body and finer fruity flavour, at half the cost of Citric; and further that your Acid is free from all traces of LEAD, generally found in the crystals.

I am persuaded that your Acid will ultimately command the Mineral Water Trade.

Yours faithfully, WM. THOMSON.

"And may I also be permitted to add my testimony to the excellence of your Phospho-Citric Acid; I consider it far and away preferable to Citric." O. H. ORTON, STOKES GOLDING.

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When Fermentation is present, Saccharine Beverages made with this Acid will keep sound and bright several days longer than those made with Crystal Acids.

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FRUIT SYRUPS & CORDIALS

"First-class beverages."—*The Grocer*.
"Have an established reputation."—*Nonconformist*.
"That Beckett's Fruit Syrups are equal to what their proprietor claims for them is proved by the fact that they are largely used in Coffee Houses throughout the country."—*Coffee Public House News*.

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Cherry. Raspberry.
Strawberry. Lime Fruit
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Pineapple.
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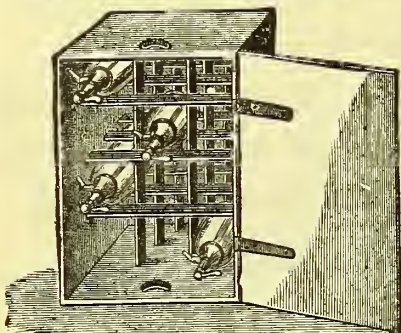
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ESTABLISHED 1840.

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Cases of every description for Home use
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Wine Laths, Oak and Deal.
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Bottle Crates. Straw Envelopes.
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DOSE.—One Tablespoonful mixed with Seltzer or Red Wine three times a day.

Price per dozen Bottles, 12/ net; price per 100 Bottles, 86/ net. Delivered free on rail London.

They are particularly valuable in the treatment of Anæmia, Chlorosis, Syphilis, Skin Diseases, Menstrual Disorders, Scrofulous Diathesis, and most especially Nervous Affections of all kinds.

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ORANGE (suitable for Quinine), GINGER, RAISIN, COWSLIP, CHERRY, &c.

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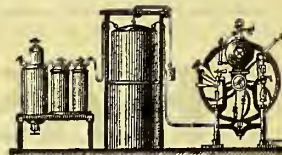
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49 STRAND, and at 143 CHEAPSIDE, LONDON.
ESTABLISHED OVER 100 YEARS.

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Intermittent Apparatus from £17
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Syphons, first quality " " " " 1s. 8d.

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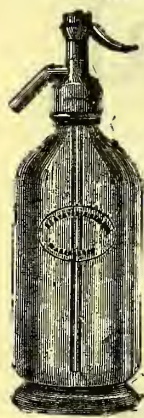
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A feat never accomplished before by any other house supplying requirements for the Aërated Water Trade.

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MAKES THE BEST CARRIAGE MAT. OF ALL CHEMISTS AND DRUGGISTS.
A Real Comfort. Recommended by Medical Men.

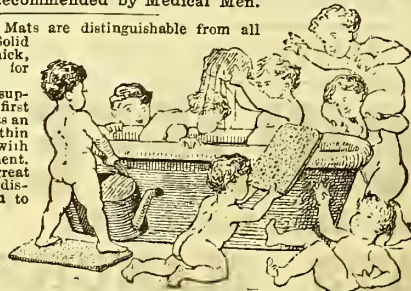
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**Genuine
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Our Goods
are of the
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Registered Copyright Novelties,

AND A LARGE VARIETY OF

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MADE BY

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Sold as imported in cases of two tins each, weighing together about 112 lbs.

**MARSHALL'S TWICE AWARDED
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These Wholesale Houses
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"BOROUGH" KETCHUPGOOD
VALUE**THE GIANT 1d. BOTTLE OF SAUCE.**
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In Half-Gross Boxes, at 6/6 per Gross.*

**"BOROUGH" KETCHUP, WORCESTER, HARVEY, YORKSHIRE,
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1d. Sample Bottles, dozen parcels	--	--	per gross 5/	extra quality 5/
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1d. pint Imperial Round Stoppered Bottles	--	--	30/	36/
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ROYAL CAFÉ SAUCE.In 8-oz. square-stoppered bottles, 48/ per gross.
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ask for**FRY'S PURE
CONCENTRATED****WILKINSON'S COMPRESSED**

They are introduced to the public to enable them to make their own HOP BITTERS, YEAST, HOME BREWING, and numerous other purposes. Full particulars given in each packet.

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Dealers in every description of Isinglass.

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As supplied to the Admiralty, War, and India Offices.

1-lb. Jars..... per lb.	6/2	per doz.	74/0	2-oz. Jars..... per lb.	7/0	per doz.	10/8
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Large and Small size Tins, also in Gallons. A large stock of every colour and description. All orders executed on receipt.

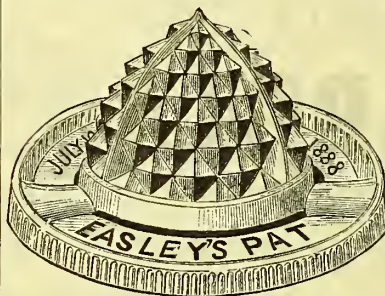
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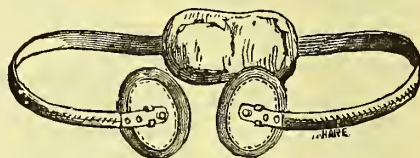
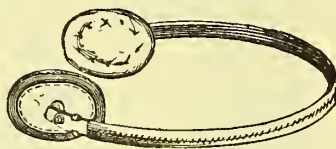
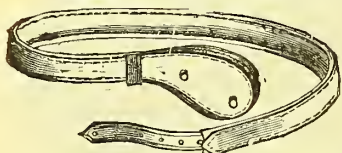
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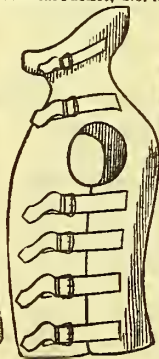
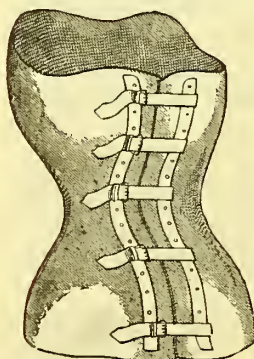


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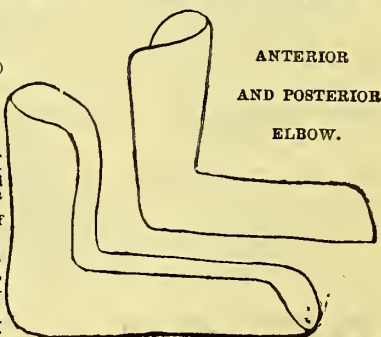
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In Miller's "Chemistry" we read:—"Other grains, such as wheat, oats, rye, and even Indian corn, may be malted, but experience has shown that barley is the grain best adapted to the process."

corn, &c., three quarters of the nutrient constituents of the best possible of malt extracts is sacrificed for the sake of a little extra vegetable albumen, hardly equal to a sip of beef-tea.

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In making Malt Extract it is very clear that if any other cereal is substituted for barley, to that extent is the extract of something inferior for the purpose to barley.

but rather to extract those proximate principles, for which alone mankind depends exclusively upon the vegetable kingdom. In its abundance of these principles, barley stands unequalled, and for this reason is the Kepler Malt Extract made from barley only.

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"The Kepler Malt Extract is the most palatable and easily digested."
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POST-CARD COMPETITION.

DECEMBER, 1889.

ALL subscribers have now, we hope, received THE CHEMISTS' AND DRUGGISTS' DIARY for 1890, and are spending a portion of their leisure time in admiring it. Those who care to enter this competition are invited to tell us on post-cards, and before December 31, which they consider in it

1. The most effective advertisement.
2. The most useful advertisement.
3. The most novel advertisement.
4. The best-looking page advertisement.
5. The best-looking $\frac{1}{2}$ -page advertisement.
6. The best-looking $\frac{1}{4}$ -page advertisement.

The one who nearest hits the general consensus of opinion will be entitled to one guinea. Employés of subscribers and their wives and families are at liberty to compete. Cards reaching us after the date fixed will be rigidly excluded. The questions can be answered from the numbers attached above.

NEW OFFICE AT SYDNEY, N.S.W.—Our Australian staff have found it necessary to take an office at Sydney, N.S.W. This is situated at 13 Queen's Chambers, Barrack Street.

Pharmaceutical Society of Great Britain.

EXAMINATIONS IN LONDON.

EXAMINATIONS were held in London on December 12, 13, 17, 18, 19, and 20, with the following results. There were 22 candidates for the major examination, and the following were successful:—

Cheney, Henry Robert, Banbury	Hollely, Thomas Lowe, Ollerton
Gourlay, Henry Hamilton, Lytham	Hook, Richard Graves, Bridgwater
Greaves, Robert Bond, Sheffield	Masters, Henry, Buxton
Green, Herbert John, Deal	Roper, Frederick Alfred, Plymouth
Higgins, Charles Alfred, Manchester	Thorpe, Edwin, Harrogate

For the

MINOR EXAMINATION

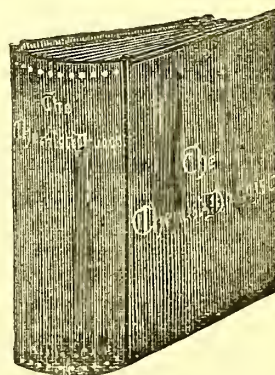
there were 159 candidates, and the following 60 were successful:—

Adcock, Robert McIntosh, Sheffield	Lloyd, William Howard, Leicester
Beattie, James Brown, Fife	Lovibond, James J., Plymouth
Bircham, Jesse, Reepham	Making, Edwin James, Sudbury
Bloomfield, Edwin James, Leamington	Mallett, Henry Philip, Norwich
Boucher, Charles Ernest, Bristol	Marshall, Frederick C., Beverley
Bransford, William, Farnham	Mason, Joseph E., Bexley Heath
Branson, Preston James, Plympton	Mawer, William Fred, Grimsby
Calcutt, Thomas John, Sevenoaks	Merrick, W. Stephens N., Exeter
Clark, Alfred Turner Sims, London	Moore, John, Stafford
Cooper, William, Warrington	Morgan, Alfred, Market Drayton
Conlson, Thomas, Leicester	Palmer, John George, Durham
Cowin, William Stephen, Union Mills	Pearson, George E., Northallerton
Emberton, Frederick Charles, Silverdale	Perfect, Egbert G., Newark
Enness, Walter Frederick, London	Quant, Ernest, Wincheombe
Eyre, William Robert, Ashbourne	Sleight, Fred, Louth
Farnworth, Walter, Blackbourne	Smith, Henry James, London
Fartbing, Herbert William, Cardiff	Spink, Arthur B., Westminster
Fast, John Percival, Wellingborough	Symes, Charles Frederick, Liverpool
Foster, Ernest Lionel, Plymouth	Symons, William, Stoke
Freeman, Arthur Alexander, London	Thomas, Frederick W., London
Greenwood, George Lister, Keighley	Umney, John Charles, Sydenham
Grice, Walter Thomas, Yardley	Wake, George, Howden
Grieve, James, Hawick	Walker, Herbert, Nottingham
Harris, George Wm., Nottingham	Warner, George Oram, Clifton
Heath, Victor Charles, Birmingham	Westmacott, George L., Manchester
Jones, John, Rhyl	Williams, Thomas John, Plymouth
Jones, Thomas, Swansea	Winfield, George F., Birmingham
Kent, John Collinson, Wakefield	Wood, James, Nottingham
Le Cudennec, Louis E., Mauritius	Woolfs, Victor John, Margate
	Wright, Edward G., Doncaster
	Zusman, Harry, Wolverhampton

MODIFIED EXAMINATION.

There was one candidate, who failed.

THE reading cases which we offer to subscribers are now used by a very large number of chemists, and are found very convenient. They keep together thirteen numbers in very tidy form, always ready for reference. By having two cases in hand the numbers of a complete volume are always available until the time comes for binding. We sell these cases at the office for 1s., or by parcels post 1s. 3d., or two for 2s. 3d. We cannot forward them to any house for enclosure, nor by any of the carriers, as in the latter case we have to pay for booking.



ADVERTISEMENTS of situations vacant and wanted, businesses for disposal, &c., will be received by us up till the first post on Friday morning.

General and Provincial News.

RIMMEL (LIMITED).—A company has been formed to acquire the business carried on at 96 Strand by the late Eugene Rimmel's executors.

FOR selling liquor without a licence a druggist in Rosemont, Pa., has been sentenced to pay \$500 fine and to undergo three months' imprisonment.

MESSRS. G. S. WOOLLEY, SONS & Co., of Manchester, are sending out very pretty calendars with representations and the perfume of roses as advertisements of their Sanitary Rose Powder.

THE GALEN HARMONIC SOCIETY gave their most successful smoking concert of the season at 38 Maddox Street, Regent Street, W., on Wednesday, December 18. Mr. A. G. Fisher was in the chair, and the musical arrangements were under the direction of Mr. Walter Grace.

KILLED BY CAYENNE PEPPER.—A cotton operative named George Ford, aged 18, has died at Bacup from the effects of taking cayenne pepper. He complained of cold, and his mother gave him a dose of mixture which contained a quantity of cayenne pepper. A few minutes afterwards he was found on his knees, gasping for breath, and after struggling for several minutes he expired. Dr. Barclay stated that death was caused by the action of pepper on a weak heart.

FOR chemists desirous of increasing their business, and who are on the look out for novelties of a saleable and profitable character, Messrs. Burroughs, Wellcome & Co. have designed an elegant leatherette perfume-stand, with the various names of Lundborg's perfumes in gold embossed letters thereon, and with a mirror background. The firm tell us that they will supply this attractive stand free of charge with orders for one gross of Lundborg's perfumes in assorted sizes and odours.

THE PHARMACEUTICAL COUNCIL.—Mr. Alfred Coleman, M.P.S., of Cardiff, wishes us to state that Mr. John Munday is local secretary for that town, and he is the deputy-superintendent. "All the voters in that district," he adds, "are agreed that the present Council have quite neglected the care of trade interests in the past, and are fully prepared to vote for a change of councillors; and as the same feeling appears pretty general over the country, provided we are successful in inducing good men to come forward, we confidently expect to return them in May next."

THE Exeter chemists have held a meeting (Mr. H. Gadd in the chair) in reference to Inland Revenue prosecutions. It was unanimously resolved to support the movement inaugurated by the Newcastle chemists, and to write Sir Stafford H. Northcote, M.P. for the city, asking him to co-operate in obtaining some definite law on the subject. The grievance felt by the Exeter chemists is that they may be pounced upon for the preparations of wholesale houses, of which they do not see the labels or directions, and which they sell without the slightest intention to defraud the revenue.

THE MEDICAL COUNCIL'S JUDICIARY POWERS.—Mr. Joseph Frederick Leeson appealed from Mr. Justice North's refusal to grant an injunction restraining the Medical Council from removing his name from the medical register, as reported last week. Lords Justices Cotton, Bowen, and Fry heard the appeal. The two first-named concurred with Mr. Justice North, but Lord Justice Fry thought the decision of the Medical Council in this matter was invalidated in consequence of two of its members being subscribers to the Medical Defence Union, which Association was in the position of complainants. The appeal was refused by majority.

HOP BITTERS COMPANY (LIMITED).—The statutory meeting of this company was held on December 19. Mr. Edgehill, the chairman, stated that the application for shares in the new company came in slowly, and it was not until October 4 that the first allotment of 41,800 shares was made. A second of 6,450 was made on October 14, and a third of 3,800 on November 22. The company had received up to the present time 11,000*l.* from all sources, out of which they had provided for the old company's liabilities, taking in return all their assets. They had ample capital to go on with, and in the

future it was their intention, the chairman said, to make more of the fact that their hop bitters had always been prepared by Dr. Soules' recipe.

HEATLEY, JAENISCH & Co. (LIMITED).—We mentioned last week that this company had started business in Newcastle. From the registration records it appears they are to carry on the businesses of chemists, druggists, importers, and manufacturers of medicinal preparations, &c. Capital, 3,000*l.*, in 1*l.* shares. Subscribers of one share each are: James Heatley, grocer, 9 Market Street, Blyth; George Andrew Heatley, druggist's assistant, 51 Falconer Street; Ralph Carr, insurance agent; William Turnbull, draper; Martha Turnbull, married woman; and Emma Jänisch, widow, all of Newcastle-on-Tyne; and Edward Towers, accountant, Tyne-mouth. The first directors are R. Carr, W. Turnbull, G. A. Heatley, E. Towers, and Emma Jänisch, to hold office until ordinary meeting in 1891. Qualification, 50*l.* in nominal value of shares.

PARISIAN chemists and their assistants are literally overcome with work just now, owing to the influenza, and they have barely time to attend to the heaps of doctors' prescriptions which crowd their counters daily. Quinine, which at ordinary times is only one franc twenty-five, or one shilling the *gramme*, is now, says the *Daily Telegraph* correspondent, at two francs in the opulent districts, but there has been no augmentation in prices in the poor localities, where anti-pyrim, as well as sulphate of quinine, is sold just now in quantities large enough to enable the chemists in these places to do a flourishing trade. With these mendicaments all sorts of drugs capable of curing either influenza or kindred maladies are eagerly called for, and the medicine manufactories and *dépôts* in the suburbs of Paris are taxed to the uttermost in order to meet the demands made upon them.

A DISPENSER COMMITTED TO PRISON.—On Dec. 20, at the Birmingham Police Court, Henry Leslie Curtis (23), *alias* Leslie Hawthorne, a dispenser, was charged with stealing 1*l.* 15*s.* 6*d.* from servants' boxes at the residence of Miss Mary Gardner, 53 Hagley Road, Edgbaston. The prisoner took apartments at the house of Miss Gardner on December 2. Two days afterwards he left, leaving the taps of the bath running before he went out, thus causing some confusion and distracting attention from his stealthy departure. Soon after he had gone it was found that the boxes belonging to the servants, Mary Perry and Jane Gough, had been ransacked and the money he was charged with stealing taken. The police were communicated with and prisoner was arrested by Detective Inspector Painter and Sergeant Baker as he was leaving a house in the Plough and Harrow Road. He said to the officer, "How do you think I shall go on? I shall plead guilty to this. I was in rather low water." Prisoner was further charged with stealing a quantity of jewellery from the house of Mary Power, widow, of 5 Trafalgar Terrace, Alcester Road, Moseley. Here in the same way he took apartments, and during the absence of Mrs. Power on December 18 took possession of four gold rings, a diamond pin, and other jewellery, valued at from 60*l.* to 90*l.*, a 5*l.* note, and some coins. This jewellery and cash were found in his breast-coat pocket when he was arrested. Detective Painter said he found pawn-tickets on the prisoner which disclosed that he had been engaged in similar malpractices in Leeds, Bradford, Manchester, and elsewhere. Prisoner pleaded guilty to both charges, but declined to give any information as to who he was or where he belonged to. The stipendiary said both the cases were bad ones, the theft from the servants being exceedingly mean. Prisoner would have to undergo one month's imprisonment for the first offence, and six months' for the second.

MESSRS. BALKWILL & Co. EXPLAIN.—Referring to the Plymouth inquest reported last week, when the coroner commented strongly on the practice of chemists prescribing for patients they had not seen, alluding to a statement made by the midwife that an injection of warm water and castor oil had been given to deceased on Mr. Balkwill's advice, a letter is published from Messrs. Balkwill & Co., stating "that their advice was that the doctor who attended at the birth be called in; that the incident occurred on Sunday, when they were told that the child was several days old, this being the only occasion on which they heard of its illness; that no remedies were suggested until pressed to help, and after

being told that the midwife did not know what to do and the aid of a doctor was declined; that nothing was supplied nor any charge made; that no injection of castor oil and water was advised, therefore the midwife did not act on their suggestion." They add that they have placed the facts before the coroner, who has expressed himself quite satisfied with their proceedings in the matter.

THE UNQUALIFIED SELLER.—A meeting of the Bristol Pharmaceutical Association was held on December 20 at the University College, Bristol, Mr. J. W. White, President, in the chair. After other business, it was moved by Mr. Keen, seconded by Mr. Pitchford, and carried unanimously, "That this meeting disapproves the action of the Council of the Pharmaceutical Society of Great Britain in prosecuting the assistant of a registered pharmacist for the sale of Battle's vermin-killer, and considers that action to be contrary both to the letter and spirit of the Pharmacy Act, 1868." It was moved by Mr. Stroud, seconded by Mr. John, and carried unanimously, "That this meeting would deeply regret the matter being left in its present imperfectly-defined position, and suggests that an effort be made by the pharmacists of the locality to raise a fund in support of the expenses of the appeal." As a result of this appeal nine and a half guineas have been promised, and further contributions are expected. We shall give next week the names of the subscribers together with others received at this office.

Personalities.

Mr. F. J. SMITH, A.P.S., has taken over the business which for years has been carried on by Mr. T. D. Wright at 26 Chapel Street, Southport.

Mr. J. MURDOCK sailed by the *Drummond Castle* on December 20 for a business tour through the South African colonies on behalf of the firm of Messrs. S. Maw, Son & Thompson.

Mr. JAMES T. CONROY has added to his laurels by passing his B.Sc. examination in honours, and by successfully competing at University College for the Sheridan Muspratt Scholarship, of the value of 50*l.* per annum, tenable for two years. The scholarship, which is the gift of Mrs. Sheridan Muspratt, is intended to enable the holder to continue work in the higher branches of chemistry. The Sheridan Muspratt Exhibition of 25*l.* has been awarded to Mr. A. Carey, of Widnes.

MESSRS. S. MAW, SON & THOMPSON will, we understand, admit into partnership on January 1 next Mr. Charles Trentham Maw, eldest son of Mr. Charles Maw, their senior member, who has for the last six years held the procreation of the firm. No alteration will be made in the name of the firm, which will consist of Mr. Charles Maw, Mr. John Thompson, and Mr. Charles Trentham Maw. It is interesting to note that Mr. Charles Trentham Maw makes the fourth generation of Maws in the business, which was founded by his great grandfather.

Mr. LABOUCHERE has had the influenza, and this is what he says about it in *Truth*:—"I like to be in the fashion, so I bore my fate with equanimity when I discovered that I had caught last week the prevailing epidemic. All of a sudden I seemed to have caught a cold, and took to sneezing, &c. Then came a cough, a headache, and an all-overish ache. Knowing that it was not dangerous, I proceeded to doctor myself by the light of common sense. To prevent any fever, I at once administered to myself 30 grains of quinine—that settled the fever. To meet the cough, I took unlimited squill pills—that settled the cough. To meet the cold I went to bed, heaped on my bed blankets, and took nothing but slops—that settled the cold. In four days I was quite well. I give my experience for the benefit of others who may be attacked." Mr. Labouchere has a perfect right to doctor himself, but he is decidedly not "in the fashion" in regard to his doses of quinine. It needs a well-seasoned eask to tolerate a 30-grain dose. As some admirers of the Prince of Democrats may try to follow his example in this respect, chemists should drop a hint to those who ask for 30-grain powders. The best thing about them is the price.

BANKRUPTCY REPORTS.

Re ABRAHAM LECOFFRE, lately trading as "E. Rimmel" at 64 Queen Victoria Street, E.C., as a Perfumer.

THE statement of affairs in this case shows, besides secured debts, total liabilities, expected to rank for dividend, 1,267*l.* 15*s.*, and assets valued at 329*l.* 12*s.* 10*d.* The bankrupt states that for the last seventeen years he has been employed as an accountant in the London office of a French bank, his present salary being at the reduced rate of 280*l.* per annum; that in December, 1887 (being then insolvent to the extent of about 500*l.*), he, with a borrowed sum of 425*l.*, purchased a perfumer's business in Queen Victoria Street, and traded there as "E. Rimmel," the business being managed by his wife. The business, owing to lack of capital, was unsuccessful, and in October last was resold to the vendors for a gross sum of 772*l.* 0*s.* 4*d.*; the asset cash, 314*l.* 10*s.* 10*d.*, which has been paid over to the Official Receiver, representing the net proceeds of such sale. The Official Receiver reports that the books of account are of an imperfect character, and are not such as to sufficiently disclose his transactions and financial position.

Re H. J. HILLIER, 79 Praed Street and 308 Edgware Road, Manufacturer of the Oil of Sahara.

THIS bankrupt applied on December 19 to Mr. Registrar Hazlett for an order of discharge. The Official Receiver reported that the bankrupt, who failed in September, 1889, with liabilities of 316*l.* 18*s.* 11*d.* and no assets, was formerly connected with the dramatic profession, but in May, 1888, invented a medical oil, for which he obtained a patent, and in the following July began business as J. Bellerie & Co., manufacturer of the Oil of Sahara, trading until May, 1889. The failure is attributed to a loss of 200*l.* on that business, and to a liability of 101*l.* on betting transactions. The learned Registrar said there were many absurd things brought out and patented nowadays, and he supposed the bankrupt thought he might as well bring out another. It appeared that the failure was also caused by the bankrupt being addicted to gambling. On the ground of the offences charged in the report, the order of discharge would be suspended for six months.

ARBITRATION CASE.—DISPENSING CHARGES.

Mr. EDWARD RIDLEY, of the High Court of Justice, attended at the Digby Hotel, Sherborne, as referee respecting a claim made by *John Hall Dalwood*, chemist, of Sherborne, against *William McEnery*, medical practitioner, of Sherborne.—Mr. Dalwood claimed 128*l.* 7*s.* 11*d.* for goods sold and delivered, and also claimed for interest at the rate of 5 per cent. on the amount from April 1, 1888, until judgment or payment. Mr. Walter Powell, barrister, of London (instructed by Mr. Durrant, solicitor, London), appeared for plaintiff, and Mr. W. A. Meek, barrister, London (instructed by Messrs. Andrews, Son, and Huxtable, solicitors, Dorchester), for defendant. Plaintiff, sworn, said he had been a chemist and druggist in Sherborne for thirty-seven years. Made the acquaintance of plaintiff in May 1885, and was told by him that, as he had been overworked, he was coming to Sherborne to settle down and retire from business. He said he might get some of his old patients following him, and inquired if plaintiff would dispense a few medicines for him. He did not care for dispensing for a doctor, and did not jump at defendant's offer, but he consented to undertake the work if supplied with the prescriptions between the hours of 9 and 10 A.M. and 5 and 6 P.M. No mention was then or throughout the year made as to price. The prescriptions were few at first, but they increased in number. The time was altered, patients coming to him at all hours of the day and night. He retained the prescriptions and made entries of all medicine supplied. The prescriptions were made in his (plaintiff's) shop, and his porter delivered the preparations. At the end of 1886 he practically ceased to act as dispenser for Dr. McEnery, as defendant fitted up a surgery and obtained a dispenser, for which he (plaintiff) was very thank-

ful. In addition to dispensing defendant's medicines, he supplied him with drugs, lemonade, and syphons of soda-water. In April 1886 he found he was unable to grapple single-handed with the dispensing of Dr. McEnery's medicines, and Mr. Hutchings joined him as assistant. Defendant's prescriptions were of the most extraordinary character that he ever dispensed, or ever heard of being dispensed. There were sometimes nine, ten, and eleven ingredients in each bottle.

Mr. Meek (interposing) said the Court was now embarking upon an inquiry which might affect defendant professionally. To this he objected.

The Referee declined to intervene.

Mr. Meek: He says the prescriptions were of the most extraordinary character.

The Plaintiff: Extraordinary by the number of ingredients contained in the prescriptions. The prescriptions were difficult, and the drugs not of an ordinary character. He did not suggest that defendant did not prescribe the sort of medicine which might be proper. There were altogether 1,836 prescriptions, which he now put in to show their nature, and the great responsibility attached to the dispensing of them. Dr. McEnery frequently prescribed poisonous mixtures, which in large London establishments were not permitted to be dispensed unless examined by a second person. On numerous occasions the question of price for the dispensing was mentioned to defendant by plaintiff and his assistant, but they could not induce defendant to come to an understanding. The first account was sent to defendant in February, 1888, but no prices were mentioned. In the April following a detailed account was presented defendant, and prices were inserted. He charged 1*d.* a dose for the medicine (which he considered honest and straightforward), liniments 3*d.* an oz., ointment 3*d.* an oz., pills 3*d.* per dozen, and lotions 1*d.* an oz. These prices covered the major portion of his bill. Never received any complaint as to his charges from defendant, although he saw him every day. Himself and defendant had had some high words about matters connected with the dispensing. He had never entered into any agreement as to charges as alleged by defendant. In April, 1888, he wrote defendant that he should charge on his account if not paid. Never made the following agreement with defendant:—"That in consideration of his employing you to dispense medicines you would credit or pay to him one-half the profits in dispensing and the sale of medicines to poor patients seen gratuitously and prescribed for by him." Dr. McEnery's reason for treating the poor patients gratuitously was to get known, and out of those poor people many had become defendant's private paying patients. It was an advertisement for defendant, which he (plaintiff) was unfortunately a party to. The prescriptions for the poor people were all marked by defendant with "G.P." which meant that he was to get paid by the people to whom the medicine was supplied. The first he heard that defendant claimed a share in the profits of those medicines was through his solicitor. The value of the medicine supplied upon "G.P." prescriptions was 21*l.* He did not charge these poor people full price. By adding a larger quantity of water they sometimes obtained the same strength of medicine and more profit for the chemist.

Cross-examined: The charges made upon Dr. McEnery were based upon a conversation which passed between defendant and his (plaintiff's) assistant. Never wrote defendant asking to be allowed to dispense his medicines. Never had any complaint from any patient as to the charges he had made for the medicine, and had never informed a patient that he was unable to reduce his charge as Dr. McEnery was to get a part of the price. Always treated Dr. McEnery with the greatest respect, and there was now no ill-feeling between them. He came to his (defendant's) house, smoked his cigars, and enjoyed himself, sometimes prolonging his visits until one or two o'clock in the morning. Dr. McEnery had never told him that his charges were exorbitant. The cost of drugs in a prescription handed him would be about 2*d.*, but he had charged 2*s.* 3*d.* for it. He admitted that in some instances he had made unreasonable charges, but he was obliged to do this to counteract cases where he was out of pocket. He included in his charges house accommodation, labour, and delivery of medicines.

The Referee said at the Army and Navy Stores he could obtain some at a much cheaper rate than that charged by

plaintiff. Was sure plaintiff could show as many cases of over-charge as under-charge, and if the bill was fought to the end upon the ground, What is a reasonable charge? there might be but little difference in the sum total. But the point now was, Is a 1*d.* a dose a fair charge to make?

Plaintiff said in 1886 quinine was selling wholesale at from 3*s.* to 3*s.* 6*d.* an ounce, and he had charged defendant at the rate of 12*s.* an ounce.

Mr. Meek: If you charge that price, what will the doctor charge the patient?

Mr. Powell: Dr. McEnery charged 7*s.* 6*d.* a bottle for this same medicine in addition to his charge for attendance.

A woman named Upsall (defendant's witness) was sworn next, for convenience sake. She said in October 1885 she complained to plaintiff of the expensive nature of the medicine supplied her upon defendant's prescriptions, but she was told by him that the cost could not be reduced, as Dr. McEnery was to get part of the price. She was sworn at by Mr. Dalwood when she complained of his charges, which was what she would have expected had she not paid for her medicine, but, as she paid her money, she expected to be treated with civility.

Mr. Powell: I hope Dr. McEnery will bear that in mind.

Mr. William Henry Williams, M.R.C.P.L., L.S.A., who has practised for fifteen years in Sherborne, considered plaintiff's charges very reasonable. When he had had medicines dispensed upon prescriptions he had been charged three times as much as defendant was now charged.

Mr. Ptolemy Colmer, M.D., said he had practised in Yeovil for twenty-seven years. Dispensing was an operation which required great skill and attention. Some of the prescriptions sent plaintiff by defendant were extraordinary, and required careful consideration.

The Referee inquired in what way the preparations made upon the prescriptions were dangerous?

Dr. Colmer replied through the strychnine and digitalis contained in them, and by the use of potent and dangerous drugs. These made very useful medicine if carefully manipulated and used. The charges by plaintiff were moderate. It was not usual for a doctor to make such an arrangement as had been suggested—to share the chemist's profits. Was not aware of such a case, but had, unfortunately, been informed of one or two.

Mr. Nathaniel Edward Davies, L.R.C.P.L., L.R.C.S.E., L.S.A.L., &c., said plaintiff's charges were very moderate—more moderate than the charges made upon himself for dispensing medicines in London and Yeovil.

Mr. Baring, who owns four chemist's shops in the neighbourhood of Woolwich, for nine years at Shaftesbury, and possesses a continental experience, said, speaking generally, the prescriptions were more like those of a consulting physician than of an ordinary medical practitioner. Plaintiff's charges were fair. The rate of profit for dispensing was always large, looking upon it as a trade transaction. The items of money taken were always small, pence and shillings rather than pounds, and taken altogether a chemist's business was a very poor one. (Hear, hear.) It was not fair to compare the charges of a country chemist with those of the Army and Navy Stores. A knowledge of the ingredients would be necessary, and the number of doses indispensable, to fairly criticise the reasonableness of an account for dispensing. Would have charged a little less than plaintiff had he been entrusted with the dispensing of the whole of a doctor's medicines. Would have allowed defendant a professional discount, and charged him less than a small customer.

Mr. F. T. Pomeroy, chemist, Poole, considered plaintiff's charges fair and reasonable. The basis of charge for dispensing was the dose. Unless the drugs were expensive they had little to do with the cost of dispensing.

Mr. Richard Henry Groves, chemist, of Blandford, who has had experience in dispensing for doctors, characterised plaintiff's charges as most moderate, and said Dr. McEnery had no reasonable ground for complaint.

Mr. Edward Hutchings, who joined Mr. Dalwood as assistant in April, 1886, and left him in October last because the profits were not sufficient, was the next witness. Would you mind informing the Court what business is better than that of a chemist?—I am in the public line now. Dr. Williams: Selling a different sort of medicine? (Laughter.) The Referee: Perhaps the chemist trade will improve now.

Witness: I hope it may. Had several times endeavoured to arrive at an understanding with defendant. Defendant had said that he had paid Mr. Durden, a Dorchester chemist, 4s. 6d. per dozen for dispensing, but plaintiff said this was unreasonable. His experience was that the charges made by Mr. Dalwood would be doubled by other chemists. The majority of defendant's prescriptions were extraordinary. Informed Dr. McEnery the prices which were being charged him before the detailed bill with charges was sent him, and he expressed his satisfaction at the prices. When in conversation with Dr. McEnery he had never mentioned any agreement, and no suggestion was made that he was to share the profits upon medicines dispensed for the "G.P." patients.

On resuming the inquiry on Friday morning, Mr. Meek addressed the court for the defence, and then called

Mr. Maggs, chemist, of Yeovil, who, examined by plaintiff's counsel, said it was very occasional that he dispensed Dr. McEnery's prescriptions. For a 6-oz. bottle of medicine he would charge the public from 1s. 3d. to 1s. 6d., and a doctor 6d.—1d. an oz.; an 8-oz. bottle, 8 doses, would be charged from 1s. 6d. to 1s. 8d. to the public, and 8d. to a doctor; 6-oz. bottle, 12 doses, 1s. 6d. to 1s. 8d. to the public, and from 6d. to 8d. to a doctor. Defendant was a more expensive prescriber than most medical men. It was not usual to have so many ingredients as Dr. McEnery put in. He wrote Mr. Dalwood on April 22, 1886:—"Our usual price would be 8s. a dozen for all ordinary mixtures." The nominal dose recognised by medical men was 1 oz. He charged a Yeovil doctor the whole of whose medicines he dispensed 6s. and 8s. a dozen.

Dr. McEnery (defendant) said he commenced practice in Sherborne in June, 1885. Had been in practice nearly thirty years. Before coming to Sherborne defendant wrote him asking for his dispensing. On his first visit to Sherborne he informed plaintiff that he would entrust him with his dispensing, and subsequently a verbal agreement was entered into as to prices. On returning home from that interview he made the following memorandum in a medical directory for 1883 (now produced) as follows:—"Six and 8 oz. mixtures (6 and 8 doses), 6d.; 6 and 8 oz. mixtures (12 and 16 doses), 9d.; 12 and 16 oz. mixtures (24 and 32 doses), 1s.; pills, 3d. a dozen; ointment, 3d. an oz.; new and expensive drugs extra. Credit me with half money received on Thursdays [for "G.P." patients] for medicine." That memo. could not be found until March, 1889. Mr. Dalwood dispensed his medicines for eighteen months. Differences had arisen as to the dispensing, and as to the sharp, abrupt, and uncivil manner of plaintiff towards his patients, some of whom had refused to go to plaintiff's shop. When he came to Sherborne nothing was farther from his mind than to retire. He came there with the express purpose of opening up new ground. Had made frequent applications to plaintiff for his bill, day-book, and prescriptions, but he was so abusive that he had ceased to ask him. Plaintiff had charged him with injuring him by taking dispensing away from him. The first bill he had from plaintiff was in February 1888, but this was not priced. Accompanying it was a demand for a cheque. He then called upon plaintiff and asked for particulars, which he received in April. Not considering this satisfactory, he called upon plaintiff and told him that if he would make out the bill in accordance with the agreement, he would give him a cheque forthwith. Told him that his prices were monstrous, entirely wrong, not in accordance with the agreement, and many of them higher than what he charged the public. Plaintiff was very excited and abusive, and told defendant that he would do all he could to injure him and his practice. Had a great objection to going to law, and had given his solicitors, in March last, a cheque for 128l. to pay whatever was due under the agreement; and they held that cheque now. But he was there that day standing on his rights. He did not look upon these proceedings as a matter of money, or as a claim, but as a conspiracy to do him harm. 85l. had been paid over to plaintiff. Would positively swear that Mr. Hutchings never spoke to him about the charges, as he alleged. He expected plaintiff to keep a day-book for him, for, without it, he was unable to make out his bills to his patients. Mr. Durden, of Dorchester, had never dispensed medicines for him, and Mr. Dalwood had not stated to him that the price (4s. 6d. a dozen), which he told him Mr. Durden charged, was absurd.

The first intimation of interest being charged him came from plaintiff's London solicitor. 1d. a dose for medicine was a most unreasonable price as between chemist and doctor, especially when the chemist dispensed the whole of the doctor's medicine. He corroborated the witness Jane Upsall in her statement respecting plaintiff being unable to allow any reduction in the cost of medicine for the reason that part of the money went to him (defendant).

Cross-examined: Had never before made such an arrangement as that with Mr. Dalwood with respect to poor patients. Commenced practice in Ireland, where he was allowed from 20 per cent. to 30 per cent. by the chemist who made up prescriptions. These allowances were made in respect to poor patients.

Mr. Powell: You thought it a good thing to introduce an Irish custom into Sherborne?

Dr. McEnery: There are many good Irish customs.

Mr. Powell: I won't ask you if non-payment is one of them.

Defendant, continuing, said it was customary for him to make memoranda in his Medical Directory. The figures in the agreement were obtained through inquiries from several chemists, none of whom told him that the charge for dispensing would very much depend upon the nature of the prescriptions. Mr. Dalwood seemed very favourable to undertaking his dispensing. His patients were of a good class, and they liked their medicines made up in the most palatable way. The cost of a prescription handed him would be 3d., and he had often charged 6d. It was only right that a chemist should have a good profit. There was no prescription which he had ordered from plaintiff which an ordinary chemist or chemist's boy could not make up. Did not know whether it was usual, when medicines contained poisons, to have them checked over. For a prescription produced he was charged 2s. 8d. The drugs and bottle would cost 2½d. Under his agreement he would have been charged 1s. for it, thus leaving plaintiff 9½d. profit. Was in the habit of using drugs newly added to the Pharmacopoeia. Some of the pills charged for by plaintiff were supplied to the patients by himself. There was really no rupture between himself and Mr. Dalwood beyond Mr. Dalwood being angry at the dispensing being taken away from him, and because he (plaintiff) would not support him in some town squabbles. Mr. Dalwood had also stood at his doorway and made offensive expressions as he passed in the street.

Mr. Powell: You seem to have a very equable temperament?

Dr. McEnery: If I had not there would have been unpleasant occurrences. (Laughter.)

The Referee: Would have had a fight in the Market Place? (Renewed laughter.)

Dr. McEnery: We should have had Irish law by taking things into our own hands. (Loud laughter.)

Evidence having been given by defendant's wife as to finding the memorandum of agreement in the Medical Directory, and by defendant's son as to a conversation with plaintiff, in which he said, "Your father does a good thing out of the poor patients,"

Mr. Powell said it was useless for him to contend further against the agreement, although his client still held that he made no such agreement.

The Referee said Mr. Powell had acted very fairly. The memorandum having been established as a genuine document, it was impossible for anyone to contend that that was not the footing upon which the dispensing was to be done.

Mr. Meek said the amount of dispensing account as per agreement, and inclusive of pills and ointment, was 70l. 18s. 6d.; drugs as per plaintiff's account, 17l. 5s. 11d.; total, 88l. 4s. 5d. Defendant was entitled to 10l. 16s. 8d. for the poor patients, leaving 77l. 7s. 9d. due to plaintiff as against 85l. paid into Court.

The Referee found that the 85l. paid into court was sufficient, and gave judgment for defendant with costs after May 1. He was inclined to say that plaintiff ought to have no costs at all. He did not wish to say anything more about his evidence than that it struck him in the most unfavourable light. It was no use Mr. Dalwood's laughing. He could tell him that he was within an ace of reporting him to the public prosecutor. He decided that costs up to May 1 should be paid by each party, and after that date by Mr. Dalwood.

A PHARMACEUTICAL TRIP THROUGH THE LEVANT.

THE three pharmacists who have been travelling through Asia Minor for the Vienna *Pharmaceutische Post* have sent to that journal several further letters concerning the incidents of their journey, from which we take the following:—After staying for a short time at Jaffa, on the shores of the Mediterranean, and which, from a pharmaceutical point of view, is an entirely uninteresting place, Mr. Henry Lafite and his fellow-travellers reached

JERUSALEM,

where they found a few unimportant pharmacies of a semi-European and semi-Oriental character, all of them dirty, badly appointed, and poverty-stricken, the pharmaceutical wants of the lower and middle classes being supplied gratuitously by the countless monasteries, while well-to-do residents are few in the Holy City. The most interesting pharmaceutical establishment is the dispensary of the Franciscan monastery of St. Salvator. This dispensary was established early in the sixteenth century by the Franciscan monks, and is a charitable institution in the true sense of the word, patients being treated gratuitously without regard to nationality or creed. The demand upon the resources of this pharmacy, which also has branches at Tiberias, Nazareth, and Bethlehem, is exceptionally heavy. As in all monasterial pharmacies, the medicines are handed to the patients through a small aperture in the door of the dispensary. The dispensing room itself, which is situated on the ground floor, is of a perfectly modern character, and provided with all the modern remedies and appliances. The stock-rooms and laboratory, however, which are situated in the cellars below, remain practically in the same condition as at the time of their establishment 350 years ago. The laboratory is rich in curious old vessels of strange shapes and sizes, adorned with quaint illustrations and inscriptions. Their size is often altogether out of proportion to the value and quantity of the drugs or galenicals for which they are intended. There is a stock vessel for ambergris which would hold, perhaps, 40 oz. of that valuable drug, and a gallon jar for *Confectio Jaconti*, an obsolete remedy, the ingredients of which were rubies, hyacinths, and other precious stones. The porcelain laboratory vessels are of great value, and large sums have been repeatedly and vainly offered for some of them by connoisseurs. They are generally very handsomely and elaborately painted, the five-armed Franciscan cross being the basis of nearly all designs. Among the medicines kept in stock by the Franciscans are a large number of extracts and electuaries long since obsolete in Western pharmacy, though still of daily use in Jerusalem, such, for instance, as *Diaprunis solutio*, *Filonio Persico*, *Diasennæ Nicolai*, *Diacatholicon mesue*, *Lignum fraxinus*, *Succus hypocistis*, &c. The library of the dispensary also contains many valuable books; for instance, the works of Avicenna and Rhazes in the original Arabic text, and many rare parchments of the period of the Alchemists and Jatrochemists. Among the invaluable text-books of pharmaceutical history in this library may be named the "Dispensatorium Valerio Cordo," 12mo., 1620, and the "Pharmacopœia Batanea," by George Batea, Venice. In the Jew-quarter of Jerusalem there are also a few pharmacies of more or less civilised character, in some of which during the "season" (*i.e.* in summer) fully forty prescriptions are dispensed daily. The foreign drugs and medicines used in Palestine are nearly all supplied by French firms, the value of the consumption being at present estimated at something like 5,500*l.* per annum.

DAMASCUS.

Through Palestine the travellers journeyed northwards towards Damascus, which they found to be a city of purely Oriental character, altogether "unbelicked by Western civilisation." One may tread the streets of Damascus for days without meeting a single being in European garb or hearing a syllable of any European language. The streets of Damascus are lighted by petroleum lamps, all the material for this purpose being now of Russian origin, though a few years ago American oil was used exclusively. Mineral-water factories, which abound in Alexandria and Cairo, are unknown in Damascus, although in the neighbouring city of

Beyrouth, the port of Damascus, three insignificant ones eked out a precarious existence. Ice-factories, which flourish all over the semi-civilised Orient, are conspicuous by their absence in Damascus, snow from the neighbouring Lebanon being obtainable at a very low price, and used for the cooling of beverages and the preservation of food without the slightest concern for bacterial infection. Commercially speaking, Damascus has been for centuries on a downward path, of which the building of the projected railway through Mesopotamia to Bagdad would simply increase the gradient, because with the completion of that line merchandise of Indian, Central Asian, and Persian origin, which is now brought by caravans to Damascus, and distributed from there throughout Europe, would pass on along the shortened route direct to Constantinople. Beyrouth, the Damascene port, would equally be ruined in that case. In spite of the decline in the commercial importance of Damascus that city still remains a centre where astonishingly large quantities of merchandise are brought to market, and the great Khans in the neighbourhood of the Suk-el-Busurieh are crammed with all kinds of drugs and colonial produce. One of the most interesting points in the commercial quarter is the Khan of Assad Pasha, erected in the beginning of the eighteenth century, and an edifice of great architectural beauty. It consists of four massive columns of black and white marble, supporting a roof of nine cupolas. Part of the roof was destroyed in the great earthquake of 1822, and has only been restored imperfectly.

THE WHOLESALE TRADE OF DAMASCUS

is carried on in these Khans, where caravans arriving from Aleppo, Bagdad, Hamadan, Mecca, and even from Yemen, far away in the south of the Arabian peninsula, establish their quarters, camels and horses being put up in the courts, while the merchandise is placed for sale in the immense halls surrounding the latter. The trade consists to a large extent of barter, the Eastern caravans carrying back to their own regions the goods which those from Aleppo and Beyrouth have brought to Damascus from Europe. The druggists, oil and colour dealers, and confectioners of Damascus together occupy one of the best streets of the city, and business appears to be pretty brisk with them, the throng of passengers being so great that it is not an easy matter, especially in the morning hours, to squeeze one's path through.

The street where our Damascene colleagues pursue their calling is known as the Dârb-el-Mustakim, and ten years ago was so narrow that camels could only pass through it with difficulty. The authorities issued a notice commanding the inhabitants to widen their street, which the latter, with true Oriental indolence, disregarded altogether, as they had done before with impunity many a time. But on this occasion they had reckoned without their host, Midhat Pasha, the then Governor of Damascus, and the "Reforming Pasha," who had previously made himself notorious in Constantinople as the author of the still-born Turkish constitution. Midhat promptly sent his soldiers to pour petroleum over every house in the Dârb-el-Mustakim and set fire to the whole concern, the seven old fire-engines of Damascus being, at his orders, brought along also to pour additional petroleum upon the conflagration. Since that year—1880—the houses have been rebuilt in stone, and the street has been widened in accordance with modern notions. The drugs which are stocked in

THE NATIVE SHOPS OF DAMASCUS

are usually in a condition of excellence seldom equalled in Europe, and articles are freely offered for sale here altogether unknown in Western markets. From Bassorah the druggists receive dried lemons the size of a walnut (Arabic: *Lemun Bassawri*) with a very thick pale yellow skin and strongly aromatic flavour, which are used as a powder in epileptic affections. A kind of clay, known as Tarab Halebi, is largely imported from Aleppo, and eaten as a *délicatesse* by anæmic women. In large use as spices are the Maltese fennel, a small and greenish variety of coriander, unpeeled ginger, turmeric, zedoary, and Malabar cardamoms. Pomegranate peel is a very popular remedy, its richness in tannic acid rendering it useful in dysentery, which is very frequent throughout the Levant, and of an exceptionally malignant character. Colocynths—always unpeeled—of the size of a child's head also are frequent.

EXPORTS FROM DAMASCUS.

Liquorice-root (*Glycyrrhiza glabra*, var. *Echinata*) deserves to be mentioned as one of the most important articles of export from Damascus. It is dug in huge quantities in the swampy lowlands of the Barada, and has hitherto been exported exclusively to America. In quality it ranks between the varieties known in commerce as Moravian and Russian liquorice. The epiderm of the root being rather stout and dark in colour the drug is not well suited for powdering, but it is very much esteemed for extract-making on account of its high proportion of glycyrrhizin. A watery decoction of liquorice is vended through the streets of Damascus as a drink. Apricot-kernels are gathered in quantities round the city, and special machinery is used to free the pith from the wood. From 40,000 to 50,000 bags of kernels are exported every year, an oil being pressed from them which is sold as "Second almond oil" in Europe. The fiery Damascene rose, a native of Syria, is cultivated in every garden in and around Damascus, and the manufacture of attar-of-rose is much resorted to as a home-industry, the most antiquated copper-stills being employed. All of it, however, is used locally as a perfume or for the aromatisation of sweets and sherbet.

THE CULTIVATION OF OPIUM

would undoubtedly be profitable in the neighbourhood of Damascus. The poppy flourishes magnificently; a fruitful soil, a powerful sun, and cheap labour are available, and, if intelligently conducted, the industry would yield a rich profit. Only very little opium is smoked in Damascus; but, on the other hand, there is an excessively large consumption of hâschish, in spite of the severe edict issued some years ago by the Turkish Government, prohibiting the use of that drug. Hâschish is also frequently taken in the form of a bolus, along with butter and honey, or from 10 to 20 drops of an alcoholic tincture of the drug are taken as an intoxicant in water.

Nothing favourable can be said of the Damascus pharmacies. They are conducted mostly by people of the smallest possible pharmaceutical acquirements, in spite of the fact that their proprietors have had to go to Constantinople to pass a qualifying examination.

THE METHODS OF DISPENSING

are deplorable, a dose of quinine and similar drugs being usually rolled in cigarette-paper and so swallowed, although in some of the larger pharmacies Limousin's wafers are kept in stock. There is no European pharmacist, nor could one exist, the number of European residents being exceptionally small. Notwithstanding these drawbacks the consumption of medicines in Damascus is considerable. Among drugs imported from Europe, the principal are tartaric acid (for lemonade-making); cinchona, of which decoctions are administered to soldiers suffering from fever; quinine, which Pelletier's factory places on the market in sealed vials of 18 grammes ($\frac{1}{2}$ oz.), with directions for use in Arabic and Turkish; bicarbonate of soda, &c. In addition the place is flooded with French and Italian specialties, and since the completion of the postal-road to Beyrouth Damascus is regularly visited by representatives of French and Italian drug firms. Northwards from Damascus a great plain—deficient in water and bare of vegetation—stretches many a day's journey towards

ALEPPO, FAMOUS IN PHARMACOLOGY

as the central market of the gall and scammony trades. The soil of this region is not devoid of fertility; on the contrary, from the earliest times down to the Middle Ages the vast plains of Northern Syria and Mesopotamia ranked among the richest and most fruitful spots in Asia Minor; and they were unsurpassed for thoroughness of cultivation. But in those days a well-planned system of canals provided an abundance of water, and the soil, rich in humus, yielded a hundredfold return to the husbandman. Afterwards, under the Arab dominion, and especially since, in more modern times, the Turks have held sway, the canals have been suffered to dry up, and the whole region has become a wilderness. Enormous tracts of land have lain waste for generations, and the sparse grass is scarcely disturbed even by the herds of wandering Bedouins. The soil of this steppe is covered with alkaline salts, from which the inhabitants—especially

in the neighbourhood of Homs—obtain by incineration a crude potash, which forms an ingredient of the crude native soap. Soap manufacture has its centres in Homs, Damascus, and, above all, in Nablus.

HOMS, OR HEMS (THE ANCIENT EMESA),

is a city of 40,000 to 50,000 inhabitants, situated on the caravan route from Damascus to Aleppo. About ten Europeans live in Homs, including one pharmacist, whose small, dirty, and badly-stocked pharmacy scarcely yields him a subsistence. His shop, however, is the only establishment of the kind in Homs, except a few Arab druggists' booths. Approaching Homs in dirt, and not unlike it in other respects, is

THE SMALL TOWN OF BAALBEK,

a place of near 5,000 inhabitants, situated on the plateau between the ranges of the Lebanon and the Anti-Lebanon. But the proximity of the world-famed ruins of the Sun temple of Baal brings a steady flow of Occidental travellers to Baalbek, and the European character of the place finds expression in the existence of two Western pharmacies kept by Christian Arabs, who have "studied pharmacy" in Beyrouth. One of the two unites the calling of a bookbinder with that of a pharmacist, and appears to derive the greater part of his income from the latter (and better) half of his business.

BEYROUTH, THE CAPITAL OF SYRIA,

a port of some 100,000 inhabitants, boasts a large number of European pharmacies, most of them quite up to the mark. The Prussian apotheker is accounted the principal pharmacy of the town, if not of the whole of Asia Minor. Combined with the retail shop is a wholesale drug business, from which the smaller shops of the country draw their requirements. From Beyrouth the travellers went to

CYPRUS,

famous as the spot where Venus Aphrodite rose from out of the foam of the sea. From Cyprus, copper (Gr. Kypros), cypresses and Chypre cats derive their names, but the last of the three have died out altogether, and cypresses are now so scarce in the island that their export has been, if not actually prohibited, at least rendered very difficult. In spite of the obstacles thrown in the way of this trade, it is said that an agent in Larnaka, the capital, annually exports several thousand of the beautiful evergreen trees to Hamburg. The climate of Cyprus, which was celebrated in ancient times for its excellence, nowadays leaves much to be desired. Along the littoral, where the heat is intense, fever stalks about almost without intermission, and although quite recently numerous Eucalyptus groves have been planted, the trees are too young as yet to make any influence felt. In Larnaka there is a pharmacy altogether installed in a European manner, and which creates a very favourable impression. In the capital, as well as in the larger cities, the English occupation of the island has created a deep impression, but not so in the outlying districts. From Cyprus the route lay *viâ* Rhodes to

THE ISLAND OF CHIOS,

known to the Turks as *Sakis-Adassi*, or "Mastic Island." Besides wine, oranges, and lemons, a principal product of the island is mastic, the aromatic resin of the *Pistacia lentiscush*, L., of which about 150,000 lbs. are exported every year. The resin is used in the preparation of liqueurs, confectionery, and varnishes, and is also employed in medicine, particularly in dentistry. The native women consume huge quantities of mastic as a chewing-gum. It is said to preserve the teeth and to keep the breath pure, while it is also reputed to strengthen the gums. The pale yellow transparent tears are chewed and rolled about in the mouth until a white plastic mass is formed, which does not adhere to the teeth. An alcoholic drink is also sold in Greece and Turkey, under the name of "Mastika," but at present the resin no longer enters into its preparation, although mastic is still used to some small extent as an ingredient of the finer liqueurs. The pharmacists throughout the Greek islands and the Asiatic littoral buy nearly all the European drugs and preparations, the principal places for the wholesale trade being Aleppo, with its port of Alexandrette, and Smyrna.

PASSING THE MINOR.

I HAD passed the Junior Cambridge Local examination about a year before my introduction to the drug trade. My certificate for this, accompanied with the inevitable two guineas, satisfied the Preliminary Board. Thus armed, I was apprenticed to a chemist in a small but flourishing market town. My master was more noted for counter-prescribing than for pharmaceutical proficiency, and his methods of treatment were conducted in such an unsystematic manner that it was very little benefit that I derived from his knowledge and experience in this line.

There was no such thing as a prescription book in the shop. There was a B.P. and a Beasley's Formulary, but when the new B.P. came out it was a whole year before a copy found its way into our shop. He was very persistent in ignoring official or semi-official instructions, and made up his pharmaceutical preparations and compounded his medicines in the manner that drained his cash-box the least. For all this, however, we had a fair reputation, and did a good business all the year round.

After serving my term of three years I was lucky enough to get into a first-class business in one of the best provincial towns. Here I remained for two years and a half, and gained good all-round experience. By this time I was past my twenty-first year. My ambitions were growing, and foremost among them was to get through my Minor. I must own I had never accomplished anything wonderful in the way of study whilst in business. I had attended some science classes, and got through elementary examinations, but this had been accomplished more on the strength of knowledge picked up at school, and refreshed by a few hours' careful reading the days immediately preceding the examinations, than by patient study or systematic use of my spare time and evenings. I must admit that I found it very hard work indeed to study theory in my spare hours at night, and I am convinced that the best way of acquiring the necessary knowledge is to give up business for a time, and enter one of the best schools of pharmacy, where one has nothing to do but study, and has the aid of experienced teachers to direct him. I do not mean to say that nobody ought to attempt the examination while in business; by all means do so "if you can," and if you get through it will be all the more credit for you.

Acting on my conviction, I left business in August, 1888, and on September 12 I entered the South London School of Pharmacy. My means were not large, and I intended doing my course in three months. But when I saw the extent of the work before me, and did not see myself able to cope with it as I went on, I was greatly disheartened. I never could cram, and never attempted to. I think it is one of the great drawbacks of English education. Whatever I take in hand, I must either fail entirely or do it thoroughly. But, in spite of the dark outlook, I plodded on, sometimes seeming to gain on my fellow-students, and sometimes, perhaps oftener, losing. Dr. Muter used to lay great stress on bringing common-sense to bear on everything, on having a clear and practical understanding of subjects, on having systematically-formed ideas of things stamped on one's mind, and being able clearly to explain those ideas in one's own words and phrases. He would compliment me on being able to do this. But for all this I gained very little confidence in myself, and if there was anything that cheered me up, it was the fact that the professors and my fellow-students seemed to have a better opinion of me than I had of myself, and assured me I would succeed. As time went on I got to grapple the subjects better, and the last month found me enjoying my studies and making very fair progress. A few days prior to the examination I eased off, and only did a few hours' work daily. This put my over-worked body and brain in better order, and gave them a chance of being at their best in power of thought and nerve when the all-important day came.

The view I took of the examination and my chances was perhaps one of my own—whether the best I am not going to decide. As I have said, I had some fear of it, as I could see the very near possibility of my getting plucked. That is, in the words of one professor, I did not know "every imaginable thing they could ask me," even within the general scope of the examination. But I was satisfied that I had done

my best, and that, on the whole, I knew more than many a fellow who had got through, but yet less than many an unlucky chap who had been ploughed. I put my wits together, kept cool, and tried to nourish a confident feeling. Such was the person who went up to Bloomsbury Square on the morning of December 19, 1888. Although it is a trifling thing, I think it worth mentioning that I did not sleep that morning till the very last minute, eat a hurried breakfast, call a cab, and give an order to drive fast. That is the way many a fellow acts the morning of his examination, and unless he has iron nerves, it is enough to upset him for the day. I was up early, took my time to eat a good wholesome breakfast, and, the morning being fine, took a walk from Kennington Road, Westminster Bridge way, to the Square, and felt all the better for it. Having arrived there, I, in company with a dozen other fellows, was soon let in, I was told to sit down, and remained so for a quarter of an hour, when I was called to "Prescription Reading." My examiner was Mr. Taylor. He gave me several prescriptions to read in full and to translate into English, as well as check the doses, &c. They were all readable at first glance, and easy to translate with the exception of two, written by the same hand. These were very hard to make out, but eventually I succeeded. Coming across two or three uncommon synonyms, I was asked their history. I was next asked some doses, most of them of preparations of a poisonous nature, such as those of opium, morphia, arsenic, &c. I only gave the maximum doses. To finish, I was given an English prescription to translate into full Latin. This completed my first subject, in which, to my knowledge, I had not made an error.

Next came "Materia Medica," Mr. Ransom. He showed me a large number of specimens, asking their botanical name, order, and habitat, some preparations into which they entered, what they were, whether gum, resin, balsam, &c., how some of them were collected or otherwise obtained, and if obtainable in more than one manner or form, which was the best. These are a few. Belladonna root, what is obtained from it? how much? what is atropine? what do you mean by an alkaloid? Elicampane; henbane leaves; white, green and black hellebore; kamala; what is it? Goa powder, is it official; in what form and under what name? what is it? Cumin; cantharides, Hungarian and Chinese; which was official? were the others used in commerce, and for what purpose? Percentage of cantharidin from each kind; thus; tragacanth, flake and hog; how are they obtained, and which is the best? Burgundy pitch; two or three kinds of aloes; gelsemium; cascarrilla; red bark; canella; croton seeds. Black pitch, what is it, and how is it obtained? What do you mean by destructive distillation, and what is the difference between it and ordinary distillation? Elaterium; elaterin, how is it obtained? This finished my materia medica. I made two mistakes in recognition, could not remember one or two orders, and missed as many habitats.

My next subject was one which I rather dreaded, viz., "Pharmacy"; examiner, Mr. Gerrard. I was first given tinct. benzoin. co. to recognise, asked the ingredients, and why rectified spirit was used. Pulv. cubebæ, into what official preparation does it enter? how is the oleo-resin made? Tinct. sennæ co., what are its ingredients? how is it made? Tinct. lavand. co., its ingredients; how is it made, and strength? I had a couple more to recognise, which I detected by some means peculiar to myself. I never could recognise things by their smell, as I have seen some fellows do. Next I was asked what S. V. R. was, its percentage composition by weight and volume. Proof spirit, ditto, how is it made? How is absolute alcohol made? into what B.P. preparation does it enter? how is it (solution of ethylate of sodium) made? He next asked me the ingredients of several compound tinctures, how they were made; strength of several more; and with what menstruum others were made, and why; composition and strengths of several compound powders, pulv. elaterini co.; pulv. jalapæ co.; glycyrrhizæ co.; ipec. co.; cretæ arom. c. opio. Then he asked me to write the ingredients of pil. rhei co.; pil. coloc. co.; pil. scammon. co.; ext. coloc. co.; what is elaterium? how is it obtained? what pill excipients do you know of? is soap in B.P. pills there as an excipient?

Next came "Dispensing," Mr. Fletcher. I went into the room, looked about me, noticed the arrangements of the bottles, opened the drawers, and saw where everything I

might require was kept. Soon I was given a prescription, as follows:—

Quin. sulph. ..	..	..	..	gr. iss.
Acid. hydrobrom. dil.	..	..	..	℥ 15
„ nit. dil.	..	..	..	℥ 10
Tinct. camph. co.	..	..	..	℥ 12
Syrupi ..	..	..	..	℥ 20
Aque ad ..	..	..	..	℥ ss.

Send 3vj. 3ss. ter in die ex aqua

Pil. rhei co. ..	..	..	..	gr. iv.
Hyd. c. creta ..	..	..	..	gr. j.

Ft. pil. Mitte vj. One at bedtime. Varnish.

I wrote a fresh prescription out for the full quantities. The examiner looked at it, and said nothing. I had to use pulv. pro pil. rhei co. Pills I made up with syrup and glycerine. Mixture was quite clear. Having made these, I was given a castor-oil emulsion in the form of a draught:—

Ol. ricini ..	..	..	..	3iv.
Mucil. acacie ..	..	..	..	3ij.
Syrupi ..	..	..	..	5j.
Tinct. opii ..	..	..	..	℥ x.
Aque ad ..	..	..	..	℥ ss.

M. ft. haust.

This was quite successful, and I was spared the trouble to put it up in a bottle. There was no occurrence of any importance all through my dispensing. Not more than half-a-dozen words were exchanged between examiner and myself.

Next came a long interval, during which time I did justice to the biscuits and water. Now comes "Chemistry," Mr. Blunt. He showed me copper foil, which I recognised. Then he showed me a heavy silvery mass which I could not recollect having ever seen, but which I anticipated was bismuth. I was told to find out, and the analysis confirmed my anticipation. I was next shown ammon. phosph. and argent. oxid., both of which I recognised. Next a white powder, which by analysis proved to be lithium carbonate. Then I was asked the action of nitric acid on metallic bismuth, and equation. What takes place if product is poured into water, and equation? How is KCN made? Write the equations. Give the complete process for making HCN, and tests. Explain action of AgNO₃ in precipitating. Give formulæ of sodii carb. and bicarb. How is the bicarbonate made? What is CO₂? How may it be prepared? What special acid and carbonate are used in commerce? For what great manufacturing purpose is it used? What are the ordinary methods of making them (artificial waters)? When I said the gas was forced into the liquid by a pressure of four atmospheres, he corrected me into six; but I stuck to four as being the B.P. number. He then asked me what I meant by atmospheric pressure. Do you see an instrument in the room that has anything to do with this pressure? What is it called? Explain its principle. How is it made? What is the space at the top of the tube? What does the barometer stand at to-day? "This barometer does not stand at that figure, but an inch lower, and that is on account of one drop of water which is floating on the top of the column in the tube, and which on looking closer you can see. Explain how it is that this one drop of water causes the mercury to descend so considerably." I tried to explain thus:—The water was where there ought to have been a perfect vacuum, and so exercised a pressure on the mercury, which counterbalanced some of the air pressure on the mercury in the cup; hence the descending of the column.

"Yes; but you do not mean to say that is a sufficient reason for such a large descent?"

It further struck me that the drop of water being in a vacuum was many times heavier, as it were, than a similar quantity in air. However, this did not seem to satisfy him, and we left it. He then asked me:—What is specific gravity? If a liquid has a sp. gr. of 1.33, how many fluid ounces will a pound of it measure? What is this instrument (thermometer)? Explain its principle. How many different kinds are there? Which is this I am showing you? Why do you say Fahrenheit? I was given some conversions from one scale to another, and was told that would do, and out I went pretty tired.

Now came my last subject, viz. "Botany," Mr. Corder. He first took me through all the mounted specimens, asking me a few questions as to the appearance, size, and manner of

growth of some of them. The specimens were good and easily recognised. We then sat down, and, pointing to some pieces of stems on the table, he asked me to tell him all I knew about one of them. My weakest part in botany was the flower, and I was strongest in the physiological part and stem, &c. So I made the best of my chance, and did not fail to tell him all I knew about the particular stem I took up. He seemed pleased, and handed me another, which I treated the same; and the third was also the subject of a lecture. I was shown the eucalyptus plant and asked to describe it. He showed me a few more leaves, fruits, &c., and asked me to define various terms referring to fruits, dehiscences, &c.

This finished the lot, and in about five minutes the chairman called me up, told me I had passed a very creditable examination indeed, &c., and I departed in peace with everybody and everything around me. I may say I did not think the Minor such a dreadful affair as some people make it out to be. I had pictured to myself a flock of lambs quivering before wolves. One examiner had been described to me as a "beast," another as a "bully." I must say that I did not find any of them so. They all behaved towards me as gentlemen. They want an exhibition of good practical common-sense. Mere learnedness will not do. Some of them will soon put the crammed bookworm in a hole he will find it very hard to get out of. Candidates should always remember which the examiner is, and which the candidate. Some fellows show too much cheeky self-estimation. Examiners are but men, subject to the weaknesses of humanity, and as such resent this kind of a candidate, and almost unconsciously give him a pretty hot time of it. Treat them wisely, and they will treat you well. I believe they prefer passing you to plucking you.

A MINOR MAN.

TAR WATER AS IN FRANCE.

AN Anglo-French pharmacist remarks in reference to a paper published in this journal on August 31, 1889, on Bishop Berkeley and tar water, that Continental chemists have exploited the bishop's observations more effectively than have his own countrymen, and proceeds to give some details and particulars of the remedy as it occurs in French pharmacy. We have now in daily use, he says, the official preparations of the Codex, such as tar water, tar syrup and tar ointment; but the special or proprietary preparations of this drug are almost countless. The first, and, perhaps, foremost in point of quantity sold, is the liqueur de goudron de Guyot, an alkaline solution of tar, offering the means of preparing an extemporaneous tar water. This preparation has an enormous sale on the Continent, and is largely exported. Of a similar character are the solutions of Guillot and of Freyessing, the latter said to be prepared without alkali; these well-known liquors are largely imitated in all pharmacies, and here most chemists keep in stock liqueur de goudron, either prepared by themselves or put up in bottles, labelled with their name and address, by the many houses who supply goods specialised, that is to say, in plain English, close imitations of the original article. Then we meet with Verne's tar products, put up in the form of powders, both for internal and external use, and Roussin's saccherolé de goudron, containing 4 per cent. of tar in a soluble form, and employed as a drink, gargle, lotion, injection, &c. Tar is also supplied in small capsules, as originally placed before the public by Guyot, but now generalised by all capsule-makers, and sold retail in small quantities. Lozenges, jujubes, bonbons, &c., having tar for their active ingredient, are also popular. Among these may be mentioned Girandel's, of universal fame, D'Grammont's bonbons, Mistral's, and a host of others. Then we have tar paper in which to roll our daily cigarettes, tar paper for closet purposes, tar cigars, formed of a wooden tube, imitating the appearance of an ordinary Londres, having a receptacle to inclose a certain quantity of the ubiquitous product, whose healing qualities are supposed to be thus communicated, and, finally, we have Goudronnière's, a special apparatus for diffusing tar fumes in our apartments. In this hasty sketch I have doubtless omitted some of the many incarnations of tar; but surely if the good Bishop Berkeley could revisit this earthly sphere, he would rejoice to find that he had not laboured in vain.

MARKET QUACKS.

BY ONE OF THEM.

PHRENOLOGY, TEETOTALISM, AND PILLS.

THESE subjects form the divisions of the oration delivered by one of the most popular market lecturers I have heard. The gentleman in question is a tall spare man, respectably, though unassumingly, attired. He commences by drawing a phrenological sketch of the head, marking out the spaces denoting certain bumps and temperaments; and, while he lectures, he traces the black line shown in the accompanying diagram, and which he means shall indicate the course taken by alcohol upon these capacities of the organisation. As this harangue progresses, he dilates upon the advantages of temperance in preserving health as compared with the disadvantages of drink in producing disease. Taking alcohol as the most violent poison known in nature, he brings forth a small glass basin. "Here, ladies and gentlemen," says he, "I have a small quantity of albumen, a



substance that forms 90 per cent. of the human brain [the albumen being a little white of egg]. I am about to show you the effect of drink in hardening the tissues of that important organ." Then turning to a small boy nearest to him, and in the hearing of the crowd, he says: "Go to the public-house opposite, and bring me three-pennyworth of brandy." The brandy procured, he pours it into the basin containing the albumen, and a thick coagulation results. Stirring the mixture with a glass rod, he holds some up to convince his hearers. The albumen now seems like a long piece of macaroni adhering to the rod, and this experiment produces a wonderful impression upon the crowd. But the finest shot has to come. Pointing to the figure he has sketched, the lecturer says: "There, ladies and gentlemen, you will see the course of the alcoholic poison. First attacking the bump of loquacity, it makes the drinker talk; presently it takes more hold upon him, and seizes upon the bump of vivacity. He will then begin to laugh, and want to be funny or witty. Travelling on further in its deadly career, it goes on hardening the brain substances until it attacks the animal propensities. The victim no longer laughs, talks, or sings, but becomes morose, sullen, and vindictive. The brain is hardened; the animal is let loose; without control over his passions he goes home, and in a fit of frenzied rage commits the fatal act that closes the last scene of a wretched life. 'Woe to the man who puts an enemy in his mouth to steal away his brains.' The poor fellow deserves our pity, for his brain was hardened. Now, ladies and gentlemen, remember what you have seen me do by this drop of brandy, and think well; pause deeply before you raise the cursed cup to your lips."

Appealing then for support, he introduces his herbal remedies, the virtues of which need a special vocabulary. But for all that they are sold at the nominal price of 6d. per box. A book on phrenology and drink is also a part of the stock in trade. Having drawn a fair day's wage from the assembly, our quondam temperance orator withdraws for the rest of the day to his usual public. Rum hot is his favourite refreshment.

THE POETIC CROCUS

is another character. Poetry and pills seem incompatible; but this is not the case. Our poetic pill-seller collects his small crowd, and informs them in rhyme that Homer, the writer of the "Iliad," went chanting his poems in the streets of Athens unknown, starving, and unappreciated. Tom Moore, Milton, and other great poets could not live upon their gigantic intellects, and no more can he. Poem after poem he recites, all his own original composition, he is very careful to add. "Poetry," he continues, in regretful and pitiful tones, "will never keep a man, and so to-day I have brought you a hero—whose praises have been sung by all the classic poets of ancient Greece and Rome—a bark and root mentioned in the Bible; in fact, ladies and gentlemen,



this is a poetical herb, whose virtues have been extolled in poetry and prose since time immemorial. This is sufficient guarantee of its usefulness and efficacy. Had it not been mentioned in poetry; and had I not have been a son of the Muses myself, I should never have brought it here into this market for your investigation and support." Again follow half-a-dozen more verses of doggerel rhyme, and then he gets to business in earnest. Sometimes he sells pills; but it is chiefly roots, for which he charges one penny. His pills bear the euphonious title of the "poetic vegetable pill." An unkind fellow-guest at his hostelry once nearly got his head broken by venturing into the poet's own province, and chalking on his back the following lines:—

I'm never hard up, for when I've no pills
I pick up the dung from the sheep on the hills.

OLD BAUMY.

Another interesting personage is one who revels in the sobriquet of Old Baumpy. This practitioner had got hold of a peculiar little instrument for the cure of disease, which was at one time extensively used by Hungarian quacks. It consists of a hollow piece of wood about the size and thickness of a penholder, the bottom of which is cup-shaped; inside the cup are about sixteen or twenty very fine needles, attached to the top piece of wood by means of wire running through the hollow handle. The way it is handled is to place the needles near some sensitive part of the body, say the back of the ear, chest, or loins, &c., place the cup upon the part to be operated on, pull the spring at the top of the wood, and in go the needles into your flesh. He then rubs the part punctured with some sort of oil containing, probably, some cantharides. This brings out scaly eruptions, which the patient imagines indicate that the bad humours are being eradicated and expelled from the system. Old Baumpy used to sell pills and ointment in the markets and "lurk" his customers for operations. I have known people he has had ten and fifteen guineas from. I expect he charged according to the eruptions he produced. It was said that one of the foreign consuls at Liverpool paid this man 100 guineas for operating on his wife; and what is more astonishing, still, it is said that Old Baumpy cured her of whatever it was that ailed her. Unfortunately for him, however, he once carried his skill a little too far. Some man having a protuberance on the top of his head went to Old Baumpy to get rid of it for him. Baumpy operated upon it, and the consequence was the fellow got worse and worse, and eventually died; since that time our worthy friend has not been seen in this country.



THE TOWN COUNCILLOR

is another member of the pill-selling fraternity. Politics, pills, and tea are his chief topics. This medico-civic gentleman does the thing big—a large carriage, with silver eagle as coat-of-arms, silver-plated harness, and coachman rigged out with top-boots, gold-braided high hat, blue coat and silver buttons with the armorial eagle stamped upon them. This quack councillor dilates upon politics, and seems to have got the public ear in his particular district. He has a son associated with him in the business, who, if not so clever at pill-selling, has the reputation of being more generous than the father. The patent-medicine stamp encircles the box of pills sold by this firm, and each box contains fifty 5-gr. pills, and as a tempting inducement to the thrifty housewife he presents a $\frac{1}{4}$ lb. of tea with each shilling box. Notwithstanding the equipage the financial success of this man's crocusing is doubtful. Moreover, he has been fined two or three times for selling his proprietary pills in a public market *sans* stamp. Still, however, large as life and twice as natural, he assumes to be the best pill-seller in the North of England.



STEADY PERSEVERANCE.

A different sort of fellow to the foregoing is Harry L—, the oldest crocus on the road. His appearance suggests Jewish descent. With iron-grey moustache and beard, heavy

eyebrows, and sparkling, merry, good-humoured eyes, which still retain the fire of youth, Harry, as he is called by everybody, is the favourite of all—good-hearted to a fault. You can safely put him down as the father of the road, in manners, experience, and age. Fifty years ago he used to attend market with his three-legged stand, upon which he placed a small box containing his “chits,” and to-day one finds no alteration in him—the same style, the same voice, a little less powerful than it once was, and the three-legged stool as usual. Yet rumour says Harry is possessed of a little property sufficient for his retirement whenever he wishes to settle down.

OLD CRUMBS

is the nickname of another curious fellow. The reason he has got this nickname is owing to his peculiar method of securing a pitch. Standing alone upon a piece of waste ground, you are surprised to see him with a long rod, sometimes just a broom-handle, upon the top of which you perceive a 2-lb. loaf. The object attracts the attention of all persons passing by, and you naturally approach nearer to hear or see what this peculiar sight means. Then you hear from him a dissertation upon bread, how it is made, where the wheat is grown, the yearly consumption, its effect upon health, &c. After he has finished lecturing upon the “staff of life,” he contrives to direct your thoughts to other vegetable products, such as herbs, instancing their marvellous properties in the cure of disease; then, taking from his pocket a bundle of well-worn testimonials, he commences reading a few extracts from grateful patients, who tender him their thanks for his medical discovery, and lauding its virtues in the cure of complaints which have hitherto baffled the most scientific practitioners. Of course the end of it is he offers you his famous pills at so much per box, price varying according to circumstances. Once Old Crummy found himself in South Wales, hard up and run out of “chits.” In order to earn a few shillings to carry him on to another town, he explained his position to a chemist, and begged him to oblige him with a few pills and boxes. The chemist looked through his old stock and found a potful of 5-grain colocynth and gamboge pills, which he supplied to Crummy on tick. In a short time the bitter apple was well distributed amongst the population, and Crummy was off to his destination with a few shillings in his pocket. About three months after he returned to the same town (a colliery district), this time in good feather, lots of money, and pitching from a hired carriage. No sooner had he begun than mutterings of imprecations arose from the crowd; then a powerful miner declared that this was the man who nearly killed him and his wife with the pills he sold three months ago. Other sufferers joined in the indignant chorus. Ducking was suggested, dirt and pebbles flew around poor Crummy, his carriage was smashed, and he himself was only just rescued from serious injury by the police, who had to lodge him in the lock-up.

TOMMY ATKINS TURNS QUACK.

The Army and Navy Hospital Corps are not unrepresented on the road; these *ci-devant* military and naval gentlemen generally appear in uniform. Tommy Atkins is a very common personage; but the most notable of this lot is one known as Matt L—. He narrates his experiences in the Soudan, South Africa, Crimea, &c. “Yes, people,” he shouts fiercely, “I have attended in the battle-field and dressed the wounds of as many soldiers as I have hairs upon my head.” Of late he has been working as assistant, but wherever he goes he takes money; in fact, when he is fairly stuffed up with asthma he will demonstrate to his customers the value of his pills in that disease so convincingly that, although his own voice at the time is as husky and hollow as a churchyard groan, he succeeds in selling his medicines.



HOMŒOPATHY IN AUSTRIA.—Out of a total number of 7,183 medical men (4,993 doctors of medicine and 2,190 surgeons) practising in Austria, there are only 118 homœopaths. Of these, 44 practise homœopathy exclusively, and 74 partially.

POETRY AND PHARMACY AS INCOMPATIBLES

I AM a poet, full of soul,
And awfully romantic;
But when I try to write, a shoal
Of people drive me frantic!

Alas! I am a chemist too,
And deeply scientific,
So there is warfare 'twixt the two,
And rivalry terrific.

As I am mixing stomach pills
Upon a busy morning,
Some lovely dream my vision fills
Without a moment's warning.

“O Philomel! in leafy June
I heard thy voice complaining
Unto the bright and silver moon——”
 (“That mixture there wants straining!”)

“—All by the crystal river's brink
A maiden fair was roaming——”
 (“Please, a pennuth of best black ink,
And tuppence change!”) “—in the gloaming——”

(“A pennuth o' pills, and some castor oil!”)
 “—So she stayed by the river weeping——”
 (“A pennuth of salve for a nasty boil!”)
 “—As her moonlight tryst she was keeping——”

“Alack and alas! poor stricken maid——”
 (“A pennuth of sticking-plaster!”)
 “—For thy life and thy reason I'm sore afraid——”
 (“I wants to see the master!”)

“—As the tender flow'et bows its head
To the kiss of a passing zephyr,
So the maid——” (“Muster,” a customer said,
“I wants a drunch for a heifer!”)

“—But, oh! the joy in her sparkling eyes
As she sees that her love approaches——”
 (“A pennuth of stuff for killing flies,
And a pennuth for them cockroaches;
A pennuth of putty, a pennuth of size,
And a pennuth of aniseed troches!”)

“—Ah, bliss! what a sight for the twinkling stars——”
 (“A pennuth of pills for the liver;
A pennuth of pipeclay—you sells it in bars?”)
 “—See the maiden with happiness quiver——”

(“A pennuth of bird-loime!”) “—O life and O love,
Can absence ever sunder
Two hearts that beat as——” (“I say, guv.,
Some on ye's made a blunder!”)

“I axed for a powder for a kid,
And, I'm blest, he's give me pison!
I'm——” (“—See how a golden meteor slid
From the zenith to the horizon;
While the stars, by the moon's full glory hid,
Chant their solemn, grand eleison.”)

“Good-night, beloved; it waxes late;
For parting is such sweet sorrow——”
 [Spoken by the Governor.]
 “You seem in a strange, wool-gathering state;
You'd better clear out to-morrow!”

December 13.

E. D. (198/30.)

CIDER.—The diseases of cider are “grease,” acidity, muddiness, and blackness. Grease makes the cider run like oil, and is due to the absence of the proper quantity of tannin. It is cured by the addition of cutch or tannin. Acidity is the consequence of acetic fermentation. Repeated clarifying and a small surface of oil on top of the cider is the best cure. Muddiness is due to imperfect fermentation, and blackness is usually caused by the use of casks or other utensils which have not been properly cleaned.

PHOTOGRAPHIC NOTES.

(Written for THE CHEMIST AND DRUGGIST.)

THE DARK ROOM.

We have been asked to give some suggestions as to fitting up a dark room for the use of amateur photographers who may be visiting in a strange locality. The arrangement of a convenience of this kind is much appreciated by visitors, and is likely to lead to good and remunerative business. A correspondent of the *Amateur Photographer* wrote a letter in a recent issue of that paper to advise brother chaps that they could not procure plates at a certain place. A ferro-type photographer, he said, told him that he had stopped keeping plates because the makers would not allow him a discount, and "with inconvenient caution" a local chemist had decided not to renew his stock till the following year. "I think," went on the correspondent, "if some enterprising person were to advertise that he keeps, say, half and quarter plates in stock, and had a dark room which could be used at the rate of, say, 6d. or 1s. per hour, a good business would be done, and amateurs saved great inconvenience and disappointment." By the chemist who decides to fit up a dark room it is assumed that a little expense will not be objected to, but almost any room or cupboard will serve provided it is absolutely dark. The first essential for a dark room is that it shall be dark—that is, that no white or actinic light is allowed access to it. If the room be underground, and an artificial illuminant be employed, not much difficulty will be experienced, as either a gas, oil, or candle lamp, such as described in our last two articles, may be utilised. If Hae's lamp be used it will be advisable to keep an additional shade of deep ruby paper handy, as the coloured glass used as a screen is not safe for iso or ortho-chromatic plates, no orange glass ever cutting off more than up to the D line of the spectrum, and these plates are sensitive to C and beyond. If, however, the room be lighted by a window, then some non-actinic medium must be used, and if the window be of any considerable size the cost of glazing it with glass of the required tint becomes considerable. In our own dark room the window measures 4 feet 6 inches by 3 feet 6 inches. Reglazing was out of the question; pasting coloured paper over the panes was tried, and gave no satisfaction, as when white light was required the window had to be opened. We then set to work, and at the cost of about half a crown made a very good arrangement, which has always given satisfaction. A frame of half-inch deal was made to fit accurately into the upper part of the window, and American cloth, on the cloth side of which stout brown paper was pasted, was tacked and glued to the frame; this slipped into place, and fitting behind the upper moulding was held in position by two turn buckles on either side, and the catch of the window at the bottom. For the lower half of the window a solid piece of half-inch deal was cut to exact size, and laths nailed to the window frame on each side made grooves for it to slide up and down in. In this board was cut an aperture, 14 inches by 20 inches, and a sheet of ground glass was puttied in; inside, by means of laths, we made two small grooves, above and below this opening, which ran the whole width of the board. In these grooves were placed two light wood frames, one bearing a flashed orange glass, the other a flashed ruby; we had thus either diffused daylight, orange light, deep ruby, or the latter two combined at will by simply sliding these frames in front of or away from the opening. For further protection a piece of American cloth was tacked to the wood above the opening, and when the light was extra strong, or we were using extra sensitive plates, this curtain was dropped down, and only a faint glimmer of light was allowed ingress at the bottom.

Underneath the window or lamp should be fitted the developing bench and sink, the latter (in our case) a temporary structure of sheet-lead in a framework of wood, with an outlet and plug at one corner, the waste water being collected in an ordinary pail. This bench was fitted at such a height that when sitting down we could comfortably see our plate, reach the water-supply or the window-screens without rising; our earlier experience of a bench breast-high was not pleasant, as we have sometimes had to stand three and four hours at a stretch developing and experimenting, and then one appreciates the advantage of a seat. Attention must

also be paid to the door to see that no white light leaks in round the edges or through the keyhole. Some may perhaps think that this precaution is absurd, but it is not so; it is attention to these minute points which will make or mar a perfect negative. Our old friend, American cloth, again comes in handy, as strips three inches wide, pasted or tacked to the inside of the door, so as to project beyond the edges, will make all safe. We prefer this plan to that of having a curtain hanging either in or out side the door, as this becomes a harbour of dust, one of the worst enemies to successful work. One little extra precaution should not be omitted, namely, the providing of a bolt inside to prevent the accidental opening of the same.

If it be possible to provide the ordinary water-supply and sink, by all means do so, if not, then a temporary sink may be made by covering part of the bench with sheet-lead, which can be turned up at the edges three or four inches. The width of the bench will of course be governed to some extent by the size of the room, but eighteen to twenty-four inches will be quite wide enough for anything. If there is no water-supply a small tank holding three or four gallons may be used, provided a tap be placed at the bottom, or one of those brown ware water-bottles, which are fitted with taps, may be used. We met, lately, a chemist in the provinces who had fitted a tap to a 56-lb. glycerine tin, which made a very good substitute for the more expensive zinc tank. To the tap of the water-supply should be fitted about six inches of three-quarter-inch indiarubber tubing, and under this should be placed a jar—a two-pound brown jam-pot is what we use. These little dodges prevent splashing, and only practical workers can appreciate their convenience; if a little expense is not objected to, then a rose tap on a movable arm may replace the ordinary tap; the rose tap can be swung on one side when not required, this turning off the flow of water. Across half the sink should be placed a movable framework of half-inch latticework; this is convenient to rest developing dishes or to drain measures on, and allows any spilt solutions to find their way into the sink; it is not a necessary, but a convenient luxury.

As near as possible to the sink, either above or on one side, should be provided a shelf for measures, and close by also a shelf for solutions. A towel, duster, and sponge complete the small subsidiary conveniences. A bench should also be provided quite distinct from the developing bench for changing plates on, and customers should be advised of this, that they may not mess it with chemicals. Developing trays or dishes must be provided, and the most convenient sizes are 12 inches by 10 inches. This will take all intermediate sizes between that and whole-plate; one 8½ inches by 6½ inches, or whole-plate dish, will take all sizes down to half-plate; one 6½ inches by 4½ inches, or half-plate dish, will take intermediate sizes down to quarter-plate; one 4½ inches by 3½ inches, or quarter-plate dish, will be the smallest required. As duplicate dishes will be kept in stock, one of each size will be sufficient; more should be lent if required. These dishes should be kept for developing and clearing only, and customers should be requested to observe that rule. The dishes should be either the new granitine, porcelain, glass, or the enamelled iron, and should be of the deep, and not the shallow variety. These may be obtained from Messrs. Perken, Son & Rayment, S. Fry & Co., Marion & Co., or Mawson & Swan. We recommend dishes made of these materials in preference to ebonite or papier mâché, as they can be kept so much cleaner. After the dishes have been used, they should be immediately cleansed by the errand-boy or porter by the use of nitric acid and water (equal parts) and copious washing. They should always be kept, when not in use, either in racks similar to the domestic plate-rack, or face to the wall, so as to prevent the accumulation of dust. For fixing plates, we are in the habit of using a deep porcelain dish measuring 18 inches by 20 inches, and prefer this to the grooved porcelain tanks now so much used, as one size will do for all plates, and there is less danger of the accidental fracture of a negative. The following measures should be provided:—One half-pint, one 4-oz., one 2-oz., one 1-oz., one 2-drachm.

The chemicals necessary are as follows: solutions of pyrogalllic acid, ammonia, soda, potash, hydroquinone, bromide of potassium, and bypo, and they can be made as follows, not necessarily to be kept in stock, although this will of course depend upon the demand for their use.

Plain Solution of Pyro.

Pyrogallie acid	120 grains
Citric acid	10 "
Glycerine	2 drachms
Methylated spirit, to make	20 "

Label: "Plain solution of pyro, 10 per cent." Every 10 minims of this solution = 1 grain dry pyro.

Sulpho-Pyrogallol.

Pyrogallie acid	120 grains
Sodium sulphite (pure recryst.) ..	480 "
Sulphurous acid	24 minims
Distilled water, to make	20 drachms

Label: "Pyro and sulphite, 10 per cent." Every 10 minims of this solution = 1 grain dry pyro.

Sol. Ammonia.

Liq. ammon. fort. '880	1 drachm
Distilled water	9 drachms

Label: "Ammonia, 10 per cent." Every 10 minims of this solution = 1 minim of liq. amm. fort. '880.

Soda.

Sodium carbonate (pure)	240 grains
Distilled water, to make	5 fl. oz.

Label: "Soda, 10 per cent." Every 10 minims of this solution = 1 grain dry carbonate of soda.

Potash.

The same as above, substituting the potash for soda salt.

Bromide.

Bromide of potassium	60 grains
Distilled water, to make	10 drachms

Label: "Bromide, 10 per cent." Every 10 minims of this solution = 1 grain dry bromide.

Hydroquinone.

The formulæ recommended in the summer number of THE CHEMIST AND DRUGGIST may be prepared.

Hypo.

Hyposulphite of soda	1 lb.
Distilled water, to make	60 oz.

Dissolve by the aid of a gentle heat, or use boiling water, and filter.

Label: "Hypo." (A Winchester quart of this solution should always be kept ready.)

Clearing Solution.

Chrome alum	1 oz.
Hydrochloric acid (fort.)	1 "
Distilled water	20 "

Label: "Clearing solution (chrome alum)."

A Winchester quart of distilled water should also be kept handy, as some operators never use anything but that for developing with. Stoppered bottles should be used in every case, and the labels should be clearly written and large, so as to be distinctly seen, and should be sized and varnished.

When the room has been used, the errand-boy or porter should at once clean up all measures and dishes and place them in their proper places, wipe down all benches, empty the waste water, and thus keep the place clean and tidy for the next visitor.

The next question is as to the charge made for the use of the room. It is customary to allow anyone to use the same free for changing plates, but when development is effected a charge of 6d. or 1s. is made, which includes the use of chemicals.

We recommend that a notice somewhat of the following fashion should be prominently displayed:—

"Notice.

"The use of this room is granted free to all photographers for the purpose of changing plates, a charge of — being made when the same are developed, this in-

cluding the use of chemicals, &c. The proprietor will undertake to wash all negatives left in his charge, and, whilst taking as much care as possible, will not be responsible for any damage that may happen to the same. The following brands and sizes of plates are kept in stock. [Enumerate here the brands and sizes.] Every requisite also supplied on reasonable terms."

PLATINUM TONING.

This is the latest excitement, and provincial dealers are likely to have a rush in some places for chloroplatinite of potash (K_2PtCl_6) and malt surface silver paper. The formula for the bath and process is as follows:—Print rather deeply on plain paper, wash to free from silver, and float on the following bath, or brush the same over the print, which in the latter case should be squeezed to a sheet of glass.

Solution A

Chloroplatinite of potash	2 grains
Distilled water,	1 oz.

The Toning-bath.

Solution A	1 drachm
Water	2 oz.
Nitric acid	2 or 3 drops

The action should be allowed to continue till the reddish tones have quite disappeared in the print when viewed by transmitted light. This gives black tones. For warmer tones dilute the above bath to 8 oz. with distilled water, and do not allow the action to continue quite so far. When the print is toned pass it into water made distinctly alkaline by carbonate of soda or ammonia, and then into the ordinary hypo or fixing bath. The resulting image in the case of the black tones is nearly pure platinum, which resists most of the bleaching agents which usually destroy the gold-toned image of an ordinary silver print. So far only the matt or plain salted paper has been used, but it will answer almost as well with ordinary albumenised paper.

BLACK PRINTS.

For some time the rage has been for nothing but cold or black prints, without any gloss or surface, till the only rule for exhibition work seems to be "to do it big and do it black." In many cases the results, we must confess, are extremely pleasing and artistic. The processes used are chiefly platinotype and bromide paper. Several experimenters have been trying, however, to obtain bromide prints of warm tones, and with tolerable success; the rationale of the process being to develop the print in the ordinary way, and after thoroughly fixing and washing, to bleach the image with mercuric or cupric chloride, or by a mixture of bichromate of potash and hydrochloric acid; then, after washing, to develop with a very weak and strongly restrained quinol or ferrous oxalate developer; the silver is now deposited in an allotropic condition, and of a red or brown colour, which is amenable to toning by the sulphocyanide gold-bath. From numerous experiments which we have carried out, this is quite possible, but it is much easier to obtain warm tones by exposing the bleached image to actinic light for a longer or shorter period, the tone varying in warmth with the length of the second exposure. We have also used sulphantimonite of soda (Schlippe's salt, Na_2SbS_3) for redevelopment, which yields a warm brown tone.

Messrs. Marion & Co., 22 Soho Square, have prepared a collection of revised formulæ for the production of transparencies and lantern slides on Cowan's chloride and chlorobromide plates. Ferrous oxalate, pyro, hydroquinone, and the new developer, eikonogen, all find a place in the same, and full instructions for the after-processes of fixing, reducing, and intensifying still further increase the usefulness of this little book, which is sufficiently small to be easily carried in the pocket. The cover is utilised to show how lantern slides should be marked, according to the Photographic Club standard, so as to ensure their being correctly shown in the lantern.

REMINISCENCES OF HISTORIC PHARMACISTS.

A CORRESPONDENT who has means of knowing sends us a few characteristic anecdotes relating to some of the eminent pharmacists of the past. We should be glad to have further contributions of a similar character.

The tales about the late Peter Squire are so numerous that they would easily form an article by themselves. His abrupt manner and sudden outbursts used to scare many of his assistants. It is related that on one occasion he asked for a pencil from one of his countermen, but he had not got one; other assistants were tried, but not one pencil was obtainable. Out he went, and in a few minutes returned with a handful, and pitching them right and left over the counter adjured them never again to say that they had not got one.

He was a thorough believer in seeing things done under his own eye, and is stated to have sat in his carriage outside the shop to see that the porter properly cleaned the exterior, as the work had been frequently scamped. It was probably this spirit of observancy that caused him to have mirrors so arranged that he could see the dispensers at their work from his office. He once saw two heads disappear behind the counter, and reappear after an interval with somewhat flushed countenances. He came out and said, "Gentlemen, I engage you to dispense, not to play; if you wish to do the latter ask for a day off and go into Hyde Park for the purpose." This rebuke was never forgotten.

He was always on the look-out for new material and formulae for insertion in his "Companion." Such was his devotion to it that at one time it used to be facetiously called by his assistants "The Beloved." The late Dr. Wright of St. Neots cured him of a carbuncle on the head by the application of an ointment which in his surgery was labelled "Nurse Bank's Ointment." Squire immediately wanted to know the composition, and when it was refused, threatened to have it analysed. Then Dr. Wright yielded, and it duly appeared in the next issue of the "Companion," under the more euphonious title of ung. galbani comp. Dr. Wright was rewarded by the insertion of the notice that "the author is indebted to Mr. Samuel Wright for this formula," and a presentation copy of the work with the author's signature, which is still preserved in the family.

The tale of old John Bell, father of the immortal Jacob, is fairly well known, but it is so good as to be worth repeating.

It is stated that on the first day he opened business in Oxford Street he received not a single customer until the shutters were being put up. Some one then came in hurriedly for a small article, and not until he had decamped was Bell aware that the coin which had been changed was bad! Thus the first day's business of the founder of J. Bell & Co. was a complete financial failure. Jacob Bell is credited with having had a peculiar manner of working himself up to the fortissimo pitch. Thus, when an assistant asked for a holiday during the busy season, Jacob Bell turned on him, and said in gradually swelling tones, "A day now! Why don't you ask to take two days, or a week, or a month, or, confound it, sir, take yourself off altogether?"

Dinneford was notoriously eccentric; one of his curious freaks was to suddenly take it into his head one day to transform his drawing-room in Bond Street into a warehouse. He had the carpet taken up, some furniture removed, and the pictures turned round with their faces to the wall, and then had the drugs, &c., brought up. No adequate reason for the transformation was ever discovered, or even tendered.

It is said that he was excessively strict on some points. Thus it is related that he had a square of glass placed in the floor that he might have the servants under his eyes. One night he discovered them playing cards, when he called them up, severely lectured them, and next day summarily dismissed them.

It is not much more than thirty-five years ago since old Daniel Hanbury, father of the great pharmacologist, used to walk up Plough Court in the Quaker costume of knee breeches and broad-brimmed hat. The old-fashioned style had not quite died out. Country folks, particularly aged parsons, used to come up to the Bank wearing those full cravats that were the wonder of many little cockneys. Old Hanbury did not escape observation, and was indeed much pestered by

little boys running after him and shouting some jingling rhyme of "Quaker, Quaker, he's an old shaker," &c. When he observed one of these little urchins at his counter, where he had been sent by his parents, very unwillingly, to buy a pennyworth of antibilious pills, he used to pounce out upon him, and, lifting his finger, told the lad to look him straight in the face and say whether he was one of those incorrigible rascals that called him names. Of course, the youngster protested his innocence, so Hanbury used to follow it up with questions as to where the boy went to school, what church he attended on Sundays, &c., finally expelling him with the observation that he still believed, in spite of his protestations, that he was one of the gang, and that he would see his schoolmaster about him. The uncomfortable feelings that these youths had on entering his shop can be well understood.

The late Mr. Morson is credited with having said two smart things during his busy and active career, which have been preserved. A popular observation with him upon the apathy of so many of his craftsmen was, "Well, you see, they do not aim at much—and they hit it!" The other was in reply to a criticism from a bumptious young man during his presidency. He replied that his young friend seemed to possess somewhere about the same amount of wisdom as he did when at that juvenile age, but with this difference, that he knew at that age he was a fool, whereas his young friend required to be told it!

The late John Savory, one of the early Presidents of the Pharmaceutical Society, was the possessor of a remarkably squeaky and whining voice. He overheard one day an assistant decline to serve a customer in Bond Street with a pennyworth of pills. The old man bounced out and said, "You ought to make halfpennyworths if required, sir; you will come to want yourself if you refuse pence like that."

Another good anecdote of John Savory is related by an old assistant. On several occasions the old gentleman had complained that the sponges were exposed on the counter far too openly to be safe, but his warnings had taken no effect. He therefore determined to give the counterman a good lesson. Walking up to the counter, he took one of the sponges off, whilst the assistant was busy with his back to him, and placing it in his pocket proceeded back to his office. Unfortunately for the success of his scheme, a painter was at work in the shop, elaborating those wonderful representations of medicinal plants which are still to be seen over the rows of bottles. This painter having noticed the old gentleman's action at once told the assistant, who promptly made a note of it. Soon after John Savory returned to the counter, and in severe tones said, "Mr. —, I have repeatedly told you that it was unsafe to leave those sponges in such an exposed position, and whilst you were busy I have actually removed one myself." "Yes, sir," was the calm and cool reply, "and you see I have duly entered and charged you for it!" The reply was so completely unexpected that the old gentleman never again attempted to outwit the assistant.

It is not generally known that Thomas Field Savory, the uncle of the late John Savory, was the first inventor of seidlitz powders, and that he patented them about 1830. An enormous trade was done in them by the firm Savory, Moore & Co., as it was then called, although only nine double powders were placed in a box which was charged 4s. 6d. In those days vans were employed by very few wholesale houses, and the method of conveying goods from West-end to City, or *vice versa*, was by porters. For their convenience "pitching-places" or resting-places were erected in the principal thoroughfares by the parish authorities, on which the porter could rest his load. Such a pitching-place is still to be seen outside the Old Bailey. It consisted of two legs with a stont board across, at such a height that a man could easily shoot his load off his head and shoulders on to it, and gain a few minutes' respite.

BITTERS.—In Hamburg there is a firm manufacturing a bitter from the following recipe, which has a big demand. Grind to a coarse powder 2 oz. of agaric, 5 oz. of cinnamon, 4 oz. of cassia buds, $\frac{1}{2}$ oz. of grains of paradise, 3 oz. of quassia, $\frac{3}{4}$ oz. of cardamom seeds, 3 oz. of gentian root, 3 oz. of orange app'les dried, $1\frac{1}{2}$ oz. of orange peel. Macerate with $4\frac{1}{2}$ gallons of 95 per cent. alcohol mixed with $5\frac{1}{2}$ gallons of water; add $2\frac{3}{4}$ oz. of acetic ether. Colour the liquor brown.—*M. W. Trade Review.*

WILLS OF DECEASED CHEMISTS.

The will (dated May 12, 1886) of the late Mr. Francis Earle, of Kingston-upon-Hull, chemist, who died on July 4 last, was proved at York Probate Registry on August 16, by the executors, Mrs. S. A. Earle, the widow, and Messrs. E. H. Earle, the son, and Henry Rust, to the latter of whom the testator leaves 50*l.* legacy. The gross value of the personalty amounted to 7,718*l.* 14*s.* 8*d.* The testator leaves his widow a 200*l.* legacy, with his furniture, plate, books, and an annuity of 400*l.* He leaves 1,000*l.* to each of his children on attaining twenty-five years. He empowers his executors to carry on his pharmacy so long as they think fit, and to sell it to his son, Mr. E. H. Earle, notwithstanding his trusteeship. The residue of his estate the testator leaves in trust to his executors to carry out the foregoing provisions of the will, and upon his youngest child attaining twenty-five years they are to distribute the estate between the children equally.

The will (dated January 26, 1863) and codicil of the late Mr. William James Foulkes, of Birkenhead, chemist and druggist, who died on February 28 last, were proved at Chester Probate Registry on July 1 by Mr. Alexander N. Tate, one of the executors. Subject to the provision of an annuity of 25*l.* to his mother, the testator gives and devises all his property, whether real or personal, for the sole absolute benefit and use of his wife. The gross value of the personal estate amounted to 2,468*l.* 0*s.* 9*d.*

The will (dated March 16, 1887) with a codicil of the late Mr. Thomas New, of Evesham, Worcestershire, late partner with his son, Mr. T. C. New, chemist and druggist and aerated-waters manufacturer, of Stratford-upon-Avon, who died on April 15 last, was proved at Worcester Probate Registry on June 20 by the executors, Messrs. T. C. New (the son) and G. M. Bird. The gross value of the personalty amounted to 4,197*l.* 10*s.*, and the net to 3,945*l.* 16*s.* 9*d.* The testator leaves for the use of his widow for life his household furniture, plate, wines, and effects generally. He directs that his son, Thomas Cheney, shall become possessed of testator's share in their business at the price of 800*l.*, which sum may be retained by him as a loan upon the payment of 5 per cent. per annum. The residue of his estate, both real and personal, the testator leaves in trust for the use and benefit of his widow, with remainder upon her death to his children in equal shares; advances which the testator has made to some of them to be considered at the time of the distribution of the estate.

The will (dated August 30, 1877) of the late Mr. Philip Pickles, of Whichfield Shelf, Halifax, druggist, who died on May 31 last, was proved at Wakefield Probate Registry on June 22 by the widow, and John Jagger Pickles and Emma Jane Pickles, the son and daughter, the executors. The gross personalty amounted to 385*l.* 5*s.* 10*d.*, and the net to 342*l.* 18*s.* 5*d.* The testator bequeaths and devises all his property, personal and real, for the use and benefit of his widow, with remainder to his aforementioned son and daughter in equal shares.

On May 10, 1889, letters of administration of the personal estate of the late Mr. H. A. Purnell, High Street, Cheltenham, chemist, who died intestate on April 14 last, were granted at the District Probate Registry, Gloucester, to Mrs. M. M. Purnell, the widow. There were no leaseholds; the gross personalty amounted to 631*l.* 16*s.* 5*d.*, and the net to 19*l.* 2*s.* 10*d.* The sureties are Messrs. R. C. Hellings, High Street, and G. H. Bayley, Clarence Street, both of Cheltenham.

The will of Mr. Henry Ridley, chemist, of Hockley Hill, Birmingham, who died on March 27 last, was proved at Birmingham on May 8 by Mrs. Ridley, the widow and sole executrix, to whom the testator bequeaths the whole of his estate, real and personal. The gross personalty amounted to 93*l.*

The will (dated January 18, 1889) of the late Mr. John Roberts, of Slaithwaite, Yorkshire, chemist and druggist, who died on February 4 last, was proved at the Wakefield Probate Registry on March 22 by Messrs. George William Roberts, the son, and James E. Broadbent, the executors. The gross value of the personalty amounted to 1,713*l.* 3*s.* 2*d.*,

and the net to 1,642*l.* 5*s.* 5*d.* The testator bequeaths and devises all his estate, real and personal, to his executors, in trust, and empowers them to sell his real estate and leaseholds at their discretion. The income arising therefrom is to be paid to his widow, and upon her decease the property is to be equally divided between the testator's children.

The will (dated October 26, 1887) of the late Mr. Thomas John Sale, of Lowestoft, chemist and druggist, who died on May 1 last, was proved at Ipswich on May 24 by Messrs. R. E. Haward and H. G. Waller, the executors. The gross personalty amounted to 789*l.* 6*s.* 1*d.*, and the net to 350*l.* 4*s.* 9*d.* The testator gives his wife a legacy of 50*l.*, and leaves the rest of his property to his executors, directing them to convert his real and personal estate into money, and invest it for the benefit of his wife and family, with remainder upon her death to his children in equal shares.

The will (dated August 8, 1888) of the late Mr. W. A. Scott, of Rochdale, chemist, druggist, drysalter, and newspaper proprietor, who died on February 19, 1889, was proved at Manchester on March 25, 1889, by Messrs. William Henry, Henry, and Walter Scott, the sons and executors, power being reserved on behalf of the widow, Mrs. Jane Scott, the other executor. The gross personalty amounted to 50,023*l.* 16*s.* 5*d.*, and the net to 45,968*l.* 12*s.* 6*d.*, within the United Kingdom, including leaseholds. The testator gives his widow an immediate legacy of 100*l.*, together with his leasehold dwelling-house, furniture, plate, wines, and general effects. He also leaves her 500*l.* per annum, and 200*l.* per annum, with a legacy of 2,000*l.*, to his daughter, Miss Fanny Scott. To his son William Henry he leaves his business of a druggist and drysalter, and the premises in which the business is carried on, and also a legacy of 2,000*l.* To his sons Henry and Walter the testator leaves the *Rochdale Observer*, the *Heywood Advertiser*, and the *Southport Guardian*, and his other newspaper properties, together with the machinery, plant, and the premises occupied in his newspaper business. The testator bequeaths each of his grandchildren 100*l.* The residue of his estate he divides, after leaving a house each to a son and daughter, equally between his children.

The will (dated January 19, 1889) of the late Mr. J. H. Stephan, of Chipping Norton, Oxon, chemist, druggist, and postmaster, who died on February 24 last, was proved at the Principal Probate Registry, London, on April 2, by Messrs. George Howell and Thomas Henry Burbidge, the executors. The testator leaves his stock-in-trade, goodwill, and business of a chemist and druggist to his son William Henry, together with a legacy of 500*l.* He devises his freehold residence, with plate, linen, wine, and household effects in general, together with an adjoining cottage and premises, to his daughter Zillah Henrietta. To his daughter Caroline he devises other freehold property, with a legacy of 500*l.* To his grandsons, Thomas Henry and Alfred Pettipher, on their attaining 21 years, he devises certain freehold properties in the counties of Oxford and Warwick. The residue of his real and personal estate the testator gives and devises to his said two daughters, with benefit of survivorship. The gross value of the personal estate amounted to 3,539*l.* 7*s.* 8*d.*, and the net to 3,399*l.* 9*s.* 3*d.*

The will (dated October 31, 1884) of the late Mr. John Tildesley, of Great Marlow, Bucks, chemist and accoucher, who died on January 12, 1885, at Bethnal Green Workhouse, was proved at the principal Probate Registry, London, on June 28 last. Probate was granted to Miss Elizabeth Blandy, of Maidenhead, one of the executors, on whose behalf Mr. J. C. Wootton, solicitor, certified that the reason she had not sooner proved was because the deceased's entire property consisted of a reversionary interest, in his wife's right, under the will of William Saunders, proved in 1852, subject to the life interest of Sarah Ann Quinton, who died in July, 1888. The testator had appointed with Miss Blandy—to whom he left 50*l.*—Mr. Rawson, solicitor, Great Marlow, as joint executor, and devised and bequeathed to them, in trust, all his property, real and personal, for the benefit of his children and grandchildren. The gross personalty amounted to 1,000*l.*, and the net to 340*l.*

BORIC ACID has been found in the ash of grapes, water-melons, and peach trees.

REGISTERED **"SANITAS"** TRADE MARK.
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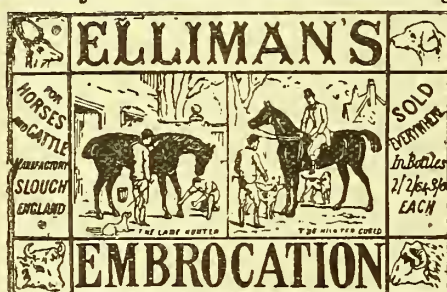
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The filling at the Apollinaris Spring (in Rhenish Prussia)
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See Diary Pages 17 and 18

EDITORIAL NOTES.

**THE PHARMACEUTICAL HISTORY
 OF 1889.**

WITH the close of the year recurs the appropriate time for a retrospect of its events, of its gains and losses, its griefs and its pleasures; for an attempt to place its transactions in their due perspective, and to get a little nearer towards the accurate estimate of occurrences which we always credit posterity with the power of forming. Nor can we forget that we are on the threshold of the last decade of the nineteenth century, and that, if that period is really to take in history the proud position which it has so long complacently assumed for itself, not much time remains for the completion of the many tasks on which it has entered, and which it has been so often claimed are to be characteristic of the generations who will have made its record. We must not, however, discuss centuries, nor even decades, at this time. The indi-

cation of the events of a single year in our little corner of the world's interests are quite sufficient to occupy such space as we can give; and, as was said in old times, the streets of Jerusalem might have been kept clean if each man swept in front of his own doorway. The year 1889 has accomplished nothing to entitle it to regard as an epoch in the record of British pharmacy. The failure to place even a little

AMENDING PHARMACY ACT

on the British statute-book is too regular an event to demand more than the most passing notice. We merely mention, therefore, that one more Bill to provide power to enforce a compulsory curriculum of education on all persons who might wish in future to enter the business was drafted, introduced into Parliament, and withdrawn without ever getting so far as a second reading in the House of Commons. The body responsible for initiating legislation of this kind is just now cogitating next year's Bill, and there is a shade of reason for anticipating that they may have comprehended the lessons of these past failures. But that remains to be seen. There has been, however, a little

LEGISLATION AFFECTING CHEMISTS AND DRUGGISTS.

The principal items are a section in a revenue Act making it penal for licensed dealers in methylated spirit to sell that article between the hours of 10 P.M. on Saturdays and 8 A.M. on Mondays; and the new Weights and Measures Act, which requires the verification, adjustment, and stamping during 1890 of every weighing instrument used in trade. The most important development of old laws during the year has been, we take it, the Bow Street magistrate's decision in the sal volatile case, which we reported on June 8. According to Mr. Vaughan's interpretation of the law

THE PHARMACOPOEIA IS A LEGAL STANDARD

for every preparation it chooses to name. To take the case tried as a good example. Sal volatile is an old-fashioned article whose popularity was acquired ages ago. The compilers of the Pharmacopoeia adopted the title for a different preparation without a word to the usual vendors of that article, and then someone prosecutes a tradesman who sells an article of the old strength and not made according to the new process, and a conviction ensues. The logical conclusion that, if this is to be understood in future, chemists can claim a voice in at least the nomenclature of the Pharmacopoeia is irresistible. Another more recent verdict has occasioned more excitement than it intrinsically deserved. The Wandsworth County Court judge gave judgment for the plaintiffs in the case of the

PHARMACEUTICAL SOCIETY v. WHEELDON,

in which a penalty was sued for on the ground that the defendant, being an unqualified person (though in the employment of a registered chemist), sold certain poison, and thus infringed the 15th section of the Pharmacy Act. There was nothing new in this view of the Act; it had been declared by several famous law lords, and had been at the base of more than one decision. But it has apparently alarmed a section of the trade, who seem to overlook the consideration that prosecutions in such cases must be initiated by the Pharmaceutical Council, who would not, it may be assumed, institute them wantonly. We have ourselves risked charges of maintenance and barratry by starting a subscription with the object of getting the law finally declared in the High Court, believing, as we do, that the more general recognition of the principle of personal qualification is the stepping-stone by which alone the legislative position of pharmacy can be advanced.

We have had to record two

CASES OF PUBLIC ANALYSIS

of the old type, which we had hoped was obsolete. One occurred at the Dalston Court, the analyst for Islington trying to prove that milk of sulphur necessarily meant precipitated sulphur; and in the other case the analyst for Durham county condemning a tincture on the strength of a ridiculously insufficient standard set up on apparently erroneous estimations. In both cases the attempt was defeated.

THE BOARD OF INLAND REVENUE

has shown increased strictness in dealing with the sale of medicated wines; and, as several modern medicines tend to become popularised in this form, one section of chemists have complained, while others, recognising the unprofitable character of both contest and complaint, have followed the sensible course of acquiring a licence, and then pushing the trade with a view of making it pay. The perennial subject of medicine-stamp law has occupied some attention, and the chemists of Newcastle especially have distinguished themselves by zeal in the crusade. The revenue from medicine stamps reached last year 202,375*l.*, a higher sum than had ever been touched before, and twice as much as was collected fifteen years since. The usual tone of criticism of the Board's proceedings has been pleasantly varied this year by the expression of satisfaction with the enlightened concessions made in regard to the export of spirituous medicines, giving the druggists of this country the chance of competing on equal terms with those of Germany—an opportunity which, we are informed, they are availing themselves of quietly, but freely. It may be mentioned that the conditions on which drawback on spirituous medicines exported may be obtained are now set forth in *THE CHEMISTS' AND DRUGGISTS' DIARY* for 1890. A costly and almost purposeless inquiry respecting the classification and maximum rates for the

CARRIAGE OF GOODS BY RAIL

in this country has been instituted, and we are reporting the proceedings so far as these have any reference to drugs or chemicals; but as the actual charges are not involved in this inquiry, it is difficult to understand where the interest of the dispute occurs. The great international event of the year,

THE PARIS EXHIBITION,

was as interesting to the pharmaceutical section of its visitors as to any other class. It brought together a magnificent collection of the products of our industries, though, in view of the almost entire absence of German, and the very limited inclusion of British and American competitors, the display was necessarily incomplete. While apologising for the immodesty of the observation, we are bound to say that, as far as our knowledge goes, the fullest and most critical notices of the objects of pharmaceutical interest exhibited in Paris, in this or any other language, are to be found in the two volumes of this journal now completed. The most notable change in the constitution of the

PHARMACEUTICAL COUNCIL

during the year was occasioned by the retirement of Dr. Symes, of Liverpool. Mr. John Harrison, of Sunderland, an ex-President of the Trade Association, was selected to fill Dr. Symes's place. At the election in May there was apparent a wide-spread dissatisfaction with the Council's policy, and this was evidenced by the relegation of the President to the fourteenth place on the poll, and the rejection of Mr. Butt. Mr. Savage, of Brighton, did not seek re-election, and Mr. Nichol, of Carlisle, was also defeated at the poll. Messrs. Martindale (London),

Abraham (Liverpool), and Marshall Leigh (Brighton) were chosen in place of the three whose names we have mentioned.

IN IRELAND

the long-standing feud between the druggists and pharmacists seemed at the beginning of the year to be in a fair way for settlement, responsible representatives of both sides having agreed upon a Bill to be introduced to Parliament on the lines of the measure of the previous year after it had been modified to the satisfaction of the druggists. The progress of conciliation was, however, suddenly arrested by an opposition within the Pharmaceutical Council, led by Mr. Wells, and evidently expressive of the general opinion of the pharmacists of Ireland. The result of the revolt was that Mr. Brunner, the President, and Mr. Draper, the vice-President of the Society, retired from the Council, and Mr. Wells's party put their own nominees in the vacant place, and subsequently reorganised themselves, with Mr. Charles Evans as President, and Mr. Wells in the vice-chair. By a decision in the Queen's Bench Division, Dublin, on January 17 (Pharmaceutical Society of Ireland v. Fee) the Society established beyond doubt their exclusive right (the apothecaries' rights being reserved) to compound medical prescriptions. A chemist and druggist was the defendant, and the Ballybay magistrates had held that because the Society had not prepared a register of chemists and druggists they could not convict. The higher court, however, reversed that decision.

CHEMISTRY, MEDICINE, AND PHARMACY.

It has been well said by one of our distinguished pharmaceutical botanists that the frantic desire to discover some new hypnotic, or other synthetic medicinal chemical substance, prevents that attention being given to botany which it deserves. So also does it prevent attention to other pharmaceutical subjects. How few among us who have the ability and leisure think of taking up pharmacognosy as a pet subject! In England we have no successor to Daniel Hanbury. Glancing back at a decade or two, it is clear that chemical investigation has occupied the place of honour in the estimation of the advanced practitioners of the medical art. This is manifest not in the production of synthetical medical compounds only. The antiseptic treatment in surgery has come into universal practice, and, comparatively, the germ theory of disease has become much more fact than theory, bacteriological research having shown that germs are concomitants of many diseases about the origin of which our knowledge was previously vague. But we are still on the threshold of this chamber of wonders; there is yet much to learn about the germs themselves, their influences and their products, and it may with fairness be said that the seekers after truth in this department of medicine are so single sighted that their zeal occasionally outruns their discretion, and much of their work is like children's castle-building—a putting together only to take down again.

THE DEVELOPMENT OF THE GERM THEORY,

too, has tended to encourage reliance as much upon the laboratory as upon the hospital for our knowledge of therapeutics. This is a false start and cannot last long. For that reason the *materia nova* of the past decade is as notable for its failures as for its successes. Greatest of all in the latter class cocaine undoubtedly is. It has succeeded where chloroform has failed, and has made painless many an operation which without it would have been of a most distressing character. Salicylic acid has established itself; antipyrin, the successor of several failures in the antipyretic

class, has taken a different position from quinine, the thing which it would have rivalled, and in the course of a few years has attained a position among popular remedies. It has several companions similar in nature—antifebrin and phenacetin, for example. Our knowledge of antiseptics has naturally become extensive during the ten years. Carbolic acid no longer has an unchallenged position: some old-fashioned simples have attempted to rival it, mercuric chloride has unquestionably been

THE CHAMPION BACILLUS SCALP GATHERER;

iodoform has established itself in its malodorous atmosphere; salol has proved useful, and hydronaphthol, sozoiodol, and some other bodies which the manufacturers know more about than others are carving a way for themselves.

The work has been kept up this past year; perhaps none of the discoveries, nor much of the progress, has been of first-class nature, but on the whole the year has been a notable one. The Paris Exhibition was the means of producing much Congress work in science and medicine, and of bringing together a splendid representation of what France can do in pharmacy and in chemical science. The jubilee of the discovery of photography served as the basis of an excellent exhibition at the Crystal Palace, which showed the remarkable progress which we are making in this art, mainly owing to the development of chemistry. The same powerful influence was observable in the pharmaceutical exhibits in the Champ de Mars, especially in the production of alkaloids and alkaloidal derivatives. The mention of the latter recalls the fact that considerable progress has been made during the year in the study of

SEVERAL OF THE COMMONER ALKALOIDS.

In regard to the coca bases Hesse is again to the front, speaking glibly of hygrine, recasting the constitution of cocaine, and discovering several acids in the leaves. Liebermann, in the same department, has, apart from certain disputations with Hesse, succeeded in the synthesis of isatropylcocaine in two forms. Other workers in the same department have added their quota to the complexity which surrounds the chemistry of coca, and one cannot help feeling as the record increases that beakers and chemicals are alone responsible for some of the new things which are added to the record from time to time. Little progress has been made in regard to the opium alkaloids, but the presence of morphine in *Eschscholzia Californica* has been substantiated, and another French chemist has established the distribution of the alkaloid throughout the whole poppy. Knorr's work in regard to the constitution of morphine is typical of a series of researches which have been continued throughout the year in the hope of finding out how the molecules of such alkaloids as brucine, hydrastine, strychnine, and several of the cinchona alkaloids are built up. Most of this work has been on the *destructive* rather than the *constructive* line—that is, the constitutions of the decomposition products have been studied, and doubtless in the course of time such work will lead us to a better understanding of the alkaloidal molecule.

PURELY SYNTHETICAL EXPERIMENTATION

has given us several successes during the year, the principal being, undoubtedly, the manufacture of carbolic acid from, it is understood, benzene by the action of caustic alkali. It is fitting to mention here a paper of some importance lately published on the physiological action of natural and artificial salicylic acids, the outcome of which was that the latter variety of acid contains an impurity of a toxic nature, to which the investigators attribute the deleterious effect of

artificial salicylic acid. They recommended the exclusive use of the natural acid. We have mildly protested against this conclusion, and we repeat that protest; first, because it is possible by dialysis to produce an artificial acid which does not contain the impurity referred to, and, second, because the earth does not produce a sufficient amount of wintergreen oil and willow bark to meet the gigantic demand for salicylic acid.

ANTIPIRETICS.

Another year's experience of pyrodine (now called hydracetin) has not made that powerful antipyretic more popular, but there are two new ones now on trial, viz. exalgine, spoken of as the French rival to antipyrin, but which really more closely resembles antifebrin, being ortho-methylacetanilide. The other new antipyretic is methacetin (para-acetanilidin), which differs only from phenacetin in containing a methyl molecule where the latter holds an ethyl. As phenacetin is steadily making headway in therapeutics, we presume that is the reason why methacetin has been introduced; but it is time to protest against this needless loading of pharmacists' shelves. By all means let us have new remedies if they do something good which existing *materia medica* does not do, but we want neither homologues, isomers, nor other kindred bodies merely to compete with something original which has proved a success.

THE CHIEF NEW HYPNOTIC

of the year is chloralamide—a derivative of chloral anhydride—which has the advantage over chloral hydrate of not influencing the heart's action, and yet producing sound sleep. Mention of the heart reminds us that that most powerful of heart-tonics,

STROPHANTHUS,

has been the subject of some controversy and fresh work during the year. Thus Professor Fraser, to whom belongs the credit of having introduced the drug, has revised his work, and in a paper communicated to the British Pharmaceutical Conference he dealt in a complete way with the chemistry of the seed of *S. hispidus*, which seed, it may be observed, is now almost unobtainable. The seeds of other species are, however, very abundant; indeed, it may be due to this circumstance that there is such confusion about the chemistry of strophanthus. Thus Professor Fraser has only succeeded in obtaining strophanthin from *S. hispidus* seed in microscopic crystals, whereas strophanthin in extremely large crystals is made in France. The truth seems to be that the various seeds do contain strophanthin, either in isomeric forms or accompanied by some unknown body which prevents them assuming an identical physical form. Some advance has been made in regard to

ACONITE ROOT,

Mr. P. W. Squire having given attention to its cultivation in this country, and thereby determining the time of year at which it is most active. The research upon the root of

SCOPOLA CARNIOLICA

has so recently been made that it need only be mentioned here; but it is unquestionably one of the chief events of the year, as it introduces us to a source of hyoscyamine which was before unknown.

ESSENTIAL OILS

constitute a department of pharmacy most attractive to investigators. During 1889 we have had fresh proof of this assertion, several useful investigations having been made public. There is one fact which has been prominently brought out by some of these, viz., the growing use of

kerosene for adulterating oils, amongst those which are known to be so adulterated being cassia, cajuput, citronella, wintergreen, and probably cinnamon oil. Fortunately the addition can be readily detected by noting the solubility of the oils in diluted alcohol. It almost seemed from Mr. R. H. Davies's continuation of Barenthin's work on the iodine absorption of essential oils that in this factor we were to have a crucial method for detecting impurity; and although that is still possible, the results of others working independently show that there is more to do before the test can be generally adopted. Mr. J. C. Umney has corrected the Pharmacopœia in regard to the congealing-point of oil of anise; Hager has given some useful factors about the oil of the pumilio pine; we have had something more definite regarding the sp. gr. of oils of sandal-wood and wintergreen, and particulars regarding a large number of rare fixed oils have been communicated to this journal by Mr. Jackson, Curator of the Kew Museums. Regarding the fixed oils used in pharmacy there has been little of much importance during the year, except the adulteration of castor oil with coconut oil, a sophistication which Mr. Michael Conroy promptly exposed.

Inorganic chemistry is such a large field that it would be unwise for us to attempt to deal with its advances in 1889; but mention ought to be made of the fact that the Faraday lecturer was

THE EMINENT RUSSIAN CHEMIST MENDELEEFF,

who, in his discourse, made some elaborations of his periodic law, and dealt somewhat roughly with one or two of Mr. Crookes's theories. We have had three new elements, the existence of one of them (Austrium or Dvi-tellurium) being hinted at in the Faraday lecture; a second is Russium, a metal nearly allied to thorium; and a third was Gnomium, but that was a very little one indeed, and it did not live long, it being the offspring of nickel and cobalt.

PHARMACY PROPER

has yielded such a rich crop of material during the year that it is not possible to comment on a tithe of it. We do not overrate the importance of Mr. Fletcher's papers on tinctures by giving them the premier place in the year's work; the aim of the papers was to give standards, and the merit of these standards has been fully recognised, the Government authorities and manufacturers having adopted them. Cascara sagrada and its preparations have been much discussed, several so-called spurious barks having turned out to be valuable. It is noteworthy that the liquid extract of this drug loses its purgative property when kept for two years. A rival to it has been introduced in the shape of senna pods, a drug which we seem to have neglected. We know a little more about ipecacuanha than we did at the beginning of the year, both regarding its chemistry and pharmacy. The suggestion made by Braithwaite and Umney, jr., to prepare the wine from a liquid extract is one which should be adopted. The revelations regarding the variable character of commercial euonymin have continued throughout the year: it seems impossible to obtain this resinoid of constant composition, and for that reason Naylor and Chaplin suggest that a liquid extract of euonymus should take its place. It is rather striking, on the other hand, that a simple suggestion made by Mr. H. W. Jones in this journal indicates a means for ensuring the constancy in composition and appearance of the more popular resinoid, podophyllin. The cold process for the concentration of extracts has been fairly established in France, Adrian and Vee having completed their work in this department during 1889. This matter of concentration

one which our Pharmacopœia authorities will have to face ere long, especially in regard to concentrated infusions. The Pharmaceutical Conference shirked it in September last, but the improvements which are being made in processes cannot fail to command recognition ere long. It would be out of place to again epitomise the work of the British Pharmaceutical Conference; suffice it to say that it was a good meeting, with useful papers and instructive discussions. We might almost sum up the work of societies and associations in the same sentences. As long as the organisers of such concerns succeed in getting practical subjects (the phrase is a little hackneyed) they command a big audience the world over, if not locally. For instance, the Oss and the mint water questions have created a considerable amount of interest during the year, as also have several other subjects relating to practical dispensing. Such matters as these we have always fostered, for, however much we may sympathise with scientific progress, we must never forget that it is by the art of pharmacy that we make our living, and that what will facilitate counter work is of superior importance to the problems of the laboratory.

COMMERCIAL.

In our review of 1888 we pointed out that, so far as the drug and chemical branches were concerned, the prospects for the coming year were decidedly favourable. The course of events during the year has fully warranted this anticipation, for, in spite of the fact that there is still a good deal of complaining in commercial circles at the alleged slowness and unprofitableness of trade, the indisputable evidence of figures distinctly shows 1889 to have been a better trade year than any of its immediate predecessors. High prices are generally looked upon with satisfaction in wholesale circles as proof of commercial prosperity, and if we apply this test to the drug trade of the year we find that the note of improvement is

BY NO MEANS AN UNCERTAIN ONE.

It would be impossible in this review to refer to all the fluctuations to which the leading articles in the drug trade have been subject, or to the established or conjectured causes of these changes, but it will suffice to place side by side the wholesale quotations of a few of the principal articles at the opening and at the close of the present year. Raw camphor (for delivery) has advanced from 85s. to 135s. per cwt.; refined camphor from 1s. 4d. to 1s. 10d. per lb.; star antimony from 25l. to 55l. per ton; Japan galls from 65s. to 74s. per cwt.; cream of tartar from 104s. to 110s. per cwt.; quicksilver (second-hand) from 7l. 17s. 6d. to 9l. 8s. per bottle; calomel from 3s. 3d. to 3s. 7d. per lb.; morphia from 5s. to 5s. 6d. per oz.; castor oil (second Calcutta) from 3½d. to 4½d. per lb.; Jalap from 5½d. to 9½d. per lb.; Cape aloes from 21s. to 28s. per cwt.; orange shellac from 62s. to 76s.; and garnet lac from 52s. to 66s. per cwt. Of course a number of articles are also obtainable at much lower rates than at the commencement of the year, but they are not by any means so numerous as the lines in which an advance has taken place, and, with a few exceptions, they do not comprise articles of first-rate importance. Quinine has this year seen the

LOWEST QUOTATION ON RECORD,

being at one period freely obtainable at less than 1s. per oz., and at the close of the year in a worse position than at the commencement. Citric acid may be pointed to as another article which has continued a downward course, but here the decline is distinctly traceable to the action of the manufacturers themselves, whose efforts are constantly exercised

in the direction of cutting out the middlemen, and who, therefore, in common with so many other chemical makers, take upon themselves the functions of manufacturers and speculators combined. Other articles, again, such as bleaching powder, which was quoted at 8l. 5s. on the Tyne at the commencement of the year, and may now be had there at 4l. 12s. 6d. per ton, and oxalic acid, which has fallen from 4½d. to 3d. per lb., owe their collapse to the breakdown of the combination system, which formerly kept them at a fictitious value.

RINGS AND TRUSTS.

The growing tendency manifested during the present year to form manufacturing interests into close corporations is a matter which deserves the most serious consideration. Until recently it was generally believed that syndicates of the kind flourishing in the United States and Germany could never take root in this country, and that any attempt to transplant them here would be sure to break down under our free-trade system. Combinations such as that of the bleaching-powder manufacturers and a few minor rings in the chemical trade had been in existence for years, but the weight of these organisations was almost unfelt by the general consumer, and their operations were confined to a few articles which could be made in this country under conditions of such natural advantage as to render foreign competition almost an impossibility. But the Salt Trust, which was created in the autumn of 1888, has continued to exist throughout the present year without revealing any signs of impending dissolution, and its apparently successful inauguration has caused the combination-mongers to turn their eyes towards other staple articles of consumption, such as coal, bread, &c. Up to the present time the actual formation of rings to control these commodities has fortunately been averted, but in industries of less importance there has been a distinct increase of monopolist action. Early in the year the glass-bottle makers and soap-boilers were negotiating for an all-round advance in prices; since then the foreign and English manufacturers of Epsom salts have arrived at an "understanding"; an arrangement was come to by which the American and European manufacturers of bromine salts defined their respective spheres of interest; the salicylic acid and sugar of lead combinations were revived, and a fresh lease of life was given to several other rings.

THE IODINE RING,

which terminates within a few days, has come apparently unscathed through the trials of outside competition, which compelled its managers to reduce the iodine price twice in rapid succession during the summer. But it would be rash to prophesy anything with regard to this article, particularly as we may expect, within the next few days, authentic news regarding its future. In the long run, these combinations generally prove their own worst enemies by incapacity to moderate their exploiting tendencies. Time after time have the monopolists driven up the price of certain manufactured goods to such an exorbitant point as to invite outsiders to commence manufacturing on their own account, with the result that either the combination had to be dissolved, or that the outsider had to be bribed by admission within the charmed circle and a share of the plunder. The manufacture of sulphonal affords an instance of the former alternative.

THE CINCHONA SYNDICATE.

The combination mania has during the present year extended to the producers of raw materials in India, the cinchona syndicate formed in Ceylon being the principal

instance of its action. We have expressed strong doubt of the possibility of success for this venture, but we shall watch its career with interest. The cinnamon syndicate, which has also been inaugurated in Ceylon during the second half of this year, appears to rest upon a still more slender basis than its sister organisation, but it also deserves attention as a first indication of the nascent consciousness among the planting fraternity of the advantages of combination.

A PROSPEROUS YEAR.

We have already said that all available evidence confirms the view that 1889 has been a good year for trade. Such information as is given in the statistics of railway traffic, in the Revenue Returns, in the figures relating to the formation of limited liability companies, and in the Board of Trade Returns incontestably points in this direction. So far as the latter figures are concerned, a comparison of the foreign trade of this country during the first eleven months of the present year, and its predecessor, shows an increase in our imports from 348,785,401*l.* to 389,245,896*l.*, and in our exports of British-produced goods from 214,964,728*l.* to 227,188,606*l.* Meanwhile, re-exports of foreign and colonial produce have fallen from 59,478,664*l.* to 59,131,921*l.* This decline is insignificant, but the gradual falling-off in this department of our commerce warns us that we cannot hope to continue to be the providers of the world's requirements of raw goods in the same degree as we have been in the past. The year 1889 has witnessed an almost feverish activity on the part of Continental nations to extend their direct communication with foreign parts, especially with Africa, China, and the East, and their steamers, aided by State grants, without which they probably could not exist, are carrying ever-increasing quantities of foreign produce to Continental ports. But although our country has lost much of this direct traffic, it must be borne in mind that the bulk of the goods carried from the producing to the manufacturing countries are still conveyed in British vessels and pass through the hands of British houses at home or abroad.

STRIKES, RAILWAY RATES, AND TINCTURES.

So far as our own market is concerned, the principal occurrences affecting the drug trade in 1888 have been the strike of dock labourers, the revision of the railway rates, and the extension of the facilities for manufacturing alcoholic preparations in bond. The dock strike practically suspended the trade of London during the better part of August and September, and even now its after-effects continue to be felt occasionally. One result of the contest has been to arouse public interest in the question of the control of the dock and wharf accommodation of the port of London, and it is to be hoped that this matter will not be allowed to fall into abeyance. Meanwhile, the Dock Trust have given notice a few weeks ago that in consequence of the strike they have been compelled to "revise"—or, in other words, to increase—their charges on the handling of merchandise; but up to the present the new tariff, so far as our own trade is concerned, has not been published. In connection with the dock troubles we may mention that in the latter part of the year the drugs and other produce stored in the Fenchurch Street warehouses of the Dock Trust were transferred to a warehouse in Crutched Friars, which had been previously used for the storage of tea.

The questions of the revision of railway rates and the drawback on spirituous medicines have been already mentioned. Another matter which deserves recapitulation, though it only affects two or three firms, is the concession granted by the Customs authorities to use denatured tea

without payment of duty. This has enabled English chemical manufacturers to take up the manufacture of caffeine in this country, and to compete successfully with the Continental makers.

IN MINCING LANE.

In the Mincing Lane markets the year opened very quietly, and matters continued in that condition until well into the spring, when business began to expand in several directions, mainly, perhaps, speculative, but still sufficiently pronounced to distinctly change the character of the market. With few interruptions this improved tone has continued until the end of the year, and the opinion is now generally expressed that our prospects at the dawn of 1890 are even brighter than they were on the threshold of 1889.

Among the articles in which, at one period or another, trade has been exceptionally active may be mentioned camphor, cascara sagrada, cream of tartar, galls, ipecacuanha, quicksilver and its derivatives, quinine, castor oil, shellac, antimony and its preparations, chamomiles, Cape aloes, colchicum seed, ergot of rye, saffron, quassia, jalap, musk, senna, sulphate of copper, and insect-flowers. A new form of contract for shellac has been agreed upon, and comes into force on January 1. The question of short weight in Penang pepper has occupied the spice trade. The order of the gum sales has been changed by separating varnish and water-gums altogether, and holding auctions of each on alternate fortnights; and other questions of minor importance have been discussed in the drug trade. On the whole, the year may be classed among the prosperous ones, and the future may be regarded with confidence and hope.

OBITUARY.

To many of us the year will always hold a special place in memory, including as it does on its records the painful separation by death from some with whom we have lived and worked. The death of Mr. John Williams removed from among us one who had been familiar in all circles where British pharmacists and chemists associated. In the wholesale trade Messrs. W. J. Bush, Frederick Barron, James Horner, and Stafford Allen, of London, A. H. Saunders, of Liverpool, and Harold Woolley, of Manchester, have been taken from among us; and the death of Reinhold Rother, the eminent American investigator, and of Michael Eugene Chevreul, the famous old French chemist, at the age of 102, have also been notable events of the year.

In closing our volume it only remains for us to express our heartiest wishes for the increased prosperity of the trade during the coming year, a result which it will be our constant aim to assist in bringing to pass.

THE proprietor of Gabriel Wolff's pharmacy Tinorda, Austria, keeps as a memento the following prescription, to dispense which he was rung up one night after closing time, now many years ago:—

Notam Austriacam
Numero
Ducenta

D.S.—To be used for 24 hours only.

DR. HAYNALD.

The Dr. Haynald who signed this peculiar prescription is the present Cardinal Haynald. At the time he wrote it he was Bishop of Siebenbürgen, and, with his secretary, had put up at the principal inn in Torda upon his return from a journey through his diocese. When the bill was presented it was discovered that the Bishop's exchequer had been unexpectedly depleted to such an extent that it became necessary to invoke the aid of the pharmacist, whom the Bishop slightly knew, and this was the manner which the prelate adopted to make his requirements known.



AND

Literary Notes.

Manual of Assaying Gold, Silver, Copper, and Lead Ores.
By Walter Lee Brown, B.Sc. Third edition. Chicago:
E. H. Sargent & Co. 12mo. Pp. 488. \$2.50.

It seems such a short time since we noticed the last edition of this manual that the appearance of a third would be a little surprising had we not formed a high opinion of its merits. We observe that its reputation has extended to Germany and Austria, as well as England, and it is to that circumstance that the early exhaustion of the last edition is to a large extent due. The manual is one of the most concise and practical volumes on assaying in the English language.

The Practice of Pharmacy. By Joseph P. Remington, Ph.M., F.C.S. Second Edition, 1889. Philadelphia and London: J. B. Lippincott Company. Large 8vo. Pp. 1,300, and 639 illustrations. \$6.

WHEN the first edition of this work was published, four years ago, we gave an exhaustive review of it. Since then it has become a popular book in the United States, and, although it deals mainly with the pharmacy of the Pharmacopœia of that country, it has also become well known in the United Kingdom; and deservedly so, for the book has merits which entitle it to a place in every pharmacist's library. The first edition was a bulky volume—too bulky, we had thought, for a text-book; but the second edition contains 200 pages more, and the number of illustrations has been increased by exactly a gross. The increase in both cases is principally due to the addition of 100 facsimiles of autograph prescriptions with explanatory text, but we notice smaller additions in other parts of the volume, particularly in the first 300 pages and the last 300, the latter including an extended "Formulary of Unofficial Preparations," which embodies all the formulæ of the National Formulary. In addition to the autograph prescriptions, which, we may state, are beautifully printed on enamelled paper, another new feature is the series of questions which are placed at the ends of the chapters in order to give "students the facilities for self-examination." Amongst the minor additions are a better description of the torsion balance; a concise and valuable chapter on alligation applied to pharmacy; an improved paragraph on pressure percolation; several additional hints in regard to the filing of prescriptions; something about casein, chondrus and quillaia emulsions; a chapter on tabloid triturates, and more about compressed-tablet machinery. On the whole, we think that the author is fairly entitled to claim that he has subjected the work to "thorough revision" so far as the practical part of it is concerned, i.e., Parts I., V., and VI. The other parts do not appear to have undergone material change—perhaps because the pharmacy of the United States Pharmacopœia is here included, and perhaps also for the reason that "The Practice of Pharmacy" does not pretend to take the place of the popular American Dispensatories. Still the fact that a new line has been given here and there to such new remedies as sulphonal and phenacetin shows that this portion of the book has been read previous to reprinting. We are, therefore, surprised to find errors of the first edition perpetuated, and practically no notice taken of the advancement which has been made during the past four years in our knowledge of materia medica. We mentioned in our first review, amongst other things, that the statement "that no simple practical test has yet been discovered to determine the percentage of ethyl nitrite" in spirit of nitrous ether was erroneous, for we have a simple method in Allen's process. It is rather surprising to find this statement repeated, and no notice taken of our enhanced knowledge regarding ethyl nitrite, although in the earlier part of the volume there is a woodcut of some specific-gravity bottles taken from a number of "Ephemeris" which contained an appreciative

article dealing with the assay of spirit of nitrous ether by Allen's process. There are otherwise so many proofs in the volume that the author has successfully attempted to improve its usefulness that we think it would only be just to his own reputation to devote more attention to Parts II., III., and IV., so far as the text therein is not a reprint of U.S.P. matter. To pharmacists in this country and our colonies "The Practice of Pharmacy" is of special value, on account of its being an exposition of official American pharmacy and of the practice of pharmacy in the most catholic sense. Messrs. Burroughs, Wellcome & Co. will again supply the book to the trade.

Our Unappreciated Petroleum Empire. By Chas. Marvin. London: R. Anderson & Co., 14 Cockspur Street. Price 1s.

MR. CHAS. MARVIN has added another to his many pamphlets on the petroleum question. In the present tract he endeavours to convince us that this country possesses an enormous unappreciated petroleum wealth in South Africa, South Australia, New Zealand, British India, Assam, Burmah, and we do not know where else besides. He wants us to start boring in all these localities without delay, as he does not see why the States and Russia should have all the innings between them, while England, like the foolish servant in the parable, folds up her pound in a napkin. "There are plenty of bores in our Empire, but not oil bores," says Mr. Marvin aggressively, and then he goes on to lecture us on our petroleum apathy and to dangle before our eyes the baits of the enormous "gushers" now flowing in Baku and elsewhere. While giving Mr. Marvin credit for much knowledge about petroleum, we cannot help thinking that he is too modest when he asserts that the oil-well sunk by the Nobel firm at Bibiybat has proved the best gusher of the season. He has overlooked that champion oil-gusher in London, which will only cease to spout with the cessation of the flow of ink from Mr. Marvin's own pen.

WE have received a copy of the proceedings of the New York State Pharmaceutical Association at the annual meeting held at Binghamton, in the first week of June. There is nothing very startling about the proceedings, except the report of the committee on adulterations, and that shows a lamentable condition of things. Here are a few facts:—

Dilute acetic acid: 15 samples bought, "only two out of the 15 good." Stronger ether: 72 druggists were asked for "stronger ether" (which is sp. gr. 725); 34 supplied it, the rest gave weaker ethers. Saffron: 40 samples were bought, and in every case carthamus or safflower was supplied. Buffalo was worst off for pure drugs.

THE BRITISH JOURNAL PHOTOGRAPHIC ALMANAC for 1890 is this year a stouter volume than ever. It contains over 300 pages of literary matter, and nearly 600 of advertisements. Nearly 200 practical photographers contribute to its pages.

Suggestions to Mothers on the Management of their Children is a somewhat voluminous book, written in a style which only a mother could adopt effectively. There are few things in regard to the upbringing of children in which the authoress has not something to say, and it is said in such a manner that one cannot help feeling that the advice is based on experience, and is tempered by considerable knowledge of children. The chapters on feeding and the care of health are mainly extracts from well-known authorities, to which the authoress attaches expressions of her own opinion; and it is a proof of her intelligence that she occasionally differs from eminent physicians, especially in regard to matters which a mother is better situated for knowing than a doctor is. Although we are inclined to disagree with some passages, it is decidedly one of the best books which mothers can have, and the fact that such a great-grandmother as the Queen has accepted a copy of it will doubtless make this second edition as popular as the first. We may point out that the dose of Glauber's salts, given on page 471, viz. 2 oz., is rather large for a child of ten, and any mother would have difficulty in getting it into a teaspoon. Probably 2 drachms is meant. The work is published by Messrs. J. & A. Churchill.

BRITISH AND FOREIGN CONSULS' REPORTS.

FRANCE.

The Olive Crop in Nice. The gathering of the crop begins in November and continues until May. The harvest is divided into three periods of two months each. From the first is produced a high coloured oil and called "fine," the second produces a straw coloured oil called "superfine," the last a pale-coloured oil called "extra superfine." The product of the first period is most dense and has a stronger flavour of the fruit, and can be longest preserved. But the best quality of the oil is that from the last gatherings of April and May, when the fruit has become fully ripened. This, although less flavoured than the others mentioned, has more sweetness and limpidity, and is in great demand in the home markets and not always easily procured for export in its finest grades.

To express the oil from ripe fruit freshly gathered and unmixed with that which is immature or otherwise of bad condition is an essential rule, and to this method the reputation of the oil of Nice is mainly due. The olive is gathered from small trees by hand, and from large ones it is knocked off with poles. The first manner is preferable, as the fruit thus escapes being bruised and as any lengthy contact with the soil affects its flavour.

The mills for grinding the olives are located on the little watercourses of the region, and a stone wheeling round on its axle triturates the fruit and reduces it to a paste. The latter is then placed in bags of esparto and squeezed under a press in the mill. The olive oil then escapes through the texture of the bags and runs into a receptacle underneath. It is this first pressure which produces that which is styled "virgin oil." Afterwards the bags of paste are removed and soaked in boiling water and placed a second time under the press. The same operation is a third time renewed, when all the oil is extracted. The second pressing yields the ordinary oil of commerce, and the third that used for illuminating purposes and generally consumed here in preference to all other oils. It is styled "huile de colza."

The farmers bring their oil to market in barrels of about 200 lbs. weight, or retain it in their cellars in earthen jars, glazed within, and guarded from dust by wooden covers. Merchants keep it in large, deep, cemented tanks, over which their warehouses are built, thus providing an even temperature.

From these tanks the oil is drawn by pumps for the process of filtration and bottling. The filter consists of a series of boxes, one above the other, with perforated bottoms, and lined with layers, about an inch thick, of white cotton wool.

The Perfume Region. The region of aromatic plants in Southern France is a tract of mountainous country about 100 miles in length by 50 in breadth, which includes part of the departments of Drôme, Vaucluse, Var, Basses-Alpes, and the Alpes Maritimes. It lies at some distance from the coast, Nyons, the focus of the distilling industry, being in the valley of the River Aigues, which is the northern limit of the olive in Eastern France. The valleys in this region are fertile, but often narrow, and their production of grains, and even the smaller fruits, is largely dependent upon irrigation. The hills are almost denuded of large trees, and bear only a thin, scattered growth of scrubby bushes, an occasional forest of pines, and, in some places, an undergrowth of furze and aromatic plants, which cling to the arid, calcareous soil through the keen blasts of winter and the long droughts of summer.

Lavender. The word "lavender" is derived from the Latin verb *lavare*, to wash, the flowers being used largely by the Roman conquerors of Gaul to perfume their baths. The distillation of lavender on an industrial scale was begun more than a century ago in the neighbourhood of Grasse, which is still the principal mart of production and commerce for the finer perfumes of cultivated flowers; but during recent years the business has extended inland and westward until Drôme, the most westerly department of the district, now produces 66,000 of the 125,000 lbs. of oil of lavender manufactured in the country.

The harvest of lavender begins about July 1 and continues until the end of September. The best results, both as to

quantity and quality, are obtained by distillation of the fresh plants in the season of blossoming, but as these are available during three months only the lavender is dried like hay, and furnishes material for distillation during nine or ten months of the year. The same applies to the spike (*Lavandula spica*), but all these plants are at their best when in full flower—a period varying from April until the end of the summer.

Absinthe. The distillation of absinthe for use in the form of liqueur is very rapidly increasing. There are two species of the absinthe plant—the large and small, which are used respectively in the manufacture of absinthe liqueurs and vermouth. The larger of these, *Artemisia absinthium*, otherwise known as wormwood, grows abundantly in various districts of Central Europe, notably in Jura and French Alps. In manufacturing the liqueur the upper leaves and twigs of the plant are macerated with hyssop, calamus, citronelle, anise, fennel, star-anise, and other substances. The decoction thus obtained is distilled, and the product treated with alcohol, sugar, and various colouring matters.

In the present advanced stage of the art of "mixing" a crude but saleable form of absinthe liqueur can be made by using the essential oil of wormwood instead of the leaves and stems of the plant, and this has given during recent years a stimulant to the business of distilling.

La Grande Chartreuse. The distillation of essential oils from wild aromatic plants, the manufacture of perfumes from cultivated flowers, and the preparation of preserved fruits by the process of crystallisation are three profitable industries peculiar to southern France. They have been built up, each in its separate locality, and have become, practically, monopolies for no other apparent reason than because they were first successfully undertaken here, and the world of consumers is content to believe that original brands are best. The same is true of other things, notably liqueurs, such as benedictine and chartreuse. When, recently, a fabulous sum was offered to the monks of La Grande Chartreuse for the proprietary rights of their renowned cordial it was not for the secret of its manufacture, for that has long been accurately known, but for the right to use the original labels and bottles, which are the guarantee of genuineness and purity.

ITALY.

Bari Olive Oil. The olive oil of the district of Bari surpasses all other descriptions with regard to keeping, and is therefore specially fit for packing sardines, which have sometimes to be kept for several years. This strength of the Bari oils is due to the early plucking of the olives. The crop begins early in the autumn and is nearly at an end in February, whilst in the Riviera of Genoa and in the South of France it begins only in winter and is protracted until June. The oil from such olives, which are allowed to ripen too much, is subject to get rancid sooner. The circumstance that the output of Southern Italy, especially for eating oils, surpasses that of all other European oil-producing countries taken together is of course a principal factor of the cheapness of these oils. This, again, is a guarantee for the genuineness of the oil, since mixtures with more or less unwholesome substitutes would yield no profit. This fact should interest English consumers, especially as, in latter times, many cases of adulterations have been tried before British courts with so-called Tuscan oils shipped from Leghorn. [This should be taken as quite an *ex-parte* statement on the part of a consul, who may or may not be interested in the oil trade of his own district.—ED. C. & D.]

GUATEMALA.

Sarsaparilla. Among the products which find shipment from the Atlantic coast, of which the town of Livingston is the port, sarsaparilla should be mentioned. The exports of this article during 1887 were 51,311 lbs. This product was in such demand at one time, and commanded such good prices, that the natives gave up almost every other kind of employment and devoted themselves entirely to its production. During the past two years, however, the price has receded by one-half, and the demand has largely fallen off. It grows readily from cuttings of the indigenous vine, and, as the natural supply is giving out on account of careless digging, it is possible that the cultivation could be made profitable, even at the present low prices.

Drug Cultivation.

The Government is offering a good many inducements to agriculturists to take up the cultivation of economic plants, including many varieties of drugs. Anyone desirous of cultivating sarsaparilla, rubber, or cacao, and not having land for the purpose, can, on requisition, be put in possession of a suitable lot. The following rewards are offered to agriculturists who at the end of eight years can show healthy plantations of cinchona (calisaya or succubra):—154*l.* for 1,000 plants eight years old to the first cultivator, 77*l.* to the second, 36*l.* 10*s.* to the third, and 15*l.* 10*s.* to all others. A premium of 4*l.* for a term of three years is given for every 150 lbs. of indigo grown and made in the country, and at the end of ten years after commencing the cultivation a reward of 11*l.* 10*s.* for every thousand gum trees planted out, of five years old.

Cochineal.

The industry of cochineal-raising has almost entirely disappeared from the country. For thirty years cochineal was the principal article of export, but now what little is grown is used for native consumption.

Coca.

A quantity of coca seed was imported from Peru in 1888, for distribution among the people in a suitable zone for its growth; but the result was unsatisfactory, from the bad quality of the seed, and fresh means are being taken to extend the cultivation of this plant.

Pepper and Cinnamon.

Pepper and cinnamon are grown in the department of Alta Verapaz; good seed has been imported from Ceylon, and planting is extending in the fertile district, while good results have also been obtained in the department of Escuintla, where a few plantations have been made.

Vanilla, Cinchona, &c.

The vanilla plant grows wild on the mountains all over the country. The quality of the vanilla is good, but though it figures as an export it is not cultivated for that purpose. Peruvian bark has proved a failure, and the cost of introducing the tree has been practically lost. Indigo works are subsiding in the country; a few still exist in the east, but though means are taken to encourage them, only 93*l.* of indigo was exported in 1888.

JAPAN.

Camphor Adulteration.

In camphor the quantity exported from Nagasaki was some 300,000 lbs. less than the previous year, the figures being:—1887, 2,008,028 lbs., value \$38,200; 1888, 1,689,452 lbs., value \$39,276. Prices ruled high, but the trade is being gradually injured by the systematic adulteration carried on. Owing to the higher prices ruling in 1888, salt, rice, flour, and water were used in considerable quantities, in some cases amounting to nearly 40 per cent. of the whole.

Drug Imports.

The imports of foreign drugs into Nagasaki increased from 1,823*l.* in 1887 to 6,827*l.* in 1888.

The Trade for 1888.

The foreign trade of Japan for 1888 shows a far greater expansion than has been obtained in any previous year, the figures being:—

Imports	11,195,358 <i>l.</i>	in 1887, 8,905,320 <i>l.</i>
Exports	10,067,206 <i>l.</i>	„ 8,183,322 <i>l.</i>

By far the greater portion of this increase falls to the United Kingdom. The following figures are of interest to the drug trade:—

	Imports			Exports	
	1888	1887		1888	1887
Drugs .. £	282,540	256,949	Camphor ..	2,549	3,846
Dyes and paints ..	147,750	140,315	Japan wax ..	1,495	1,365
Glassware ..	56,965	42,719	Antimony ..	1,300	2,026
Scientific instruments ..	70,945	47,491	Drugs ..	29,390	12,743

Japanese Tea for America.

This staple has hitherto always occupied the first place in value among the list of exports from Hiogo, but in 1888 it only came a long way behind others in value, though the quantity exported remained much the same as in 1887. A full crop, accompanied with fairly good quality in 1888, caused teas to be placed on the market here at much lower prices, while the

tendency of buyers for the United States and Canadian markets is also towards cheaper prices and lower grade teas. The total quantity exported was a little over 18,000,000 lbs., of which 4,257,511 lbs. were shipped for Canada, the balance having been principally for New York (7,036,807 lbs.), and Chicago (5,471,664 lbs.).

MEXICO.

Drug Exports.

The bulk of the drugs exported from Mexico is shipped to the United States, though from there a large part finds its way to the United Kingdom. The following figures are of interest as showing the comparative value of the exports during the last five years:—

Articles	Annual average, five years ending June 30, 1886 Value in \$	Year ending June 30, 1886 Value in \$	Year ending June 30, 1887 Value in \$	Weight in tons
Aloes (essential oil) ..	1,576	—	10,121	14.5
Cascarilla ..	—	—	1,264	8.9
Chicle (chewing gum) ..	73,288	127,066	285,930	570.4
Honey ..	74,559	47,544	35,719	660.8
Indigo ..	64,084	95,289	50,289	34.7
Jalap ..	30,324	19,641	10,926	63.5
Sarsaparilla ..	49,569	95,870	55,609	482.6
Vanilla ..	425,150	419,178	555,113	43.5

The essential oil of aloes is exported from Vera Cruz in about equal proportions to Great Britain and France; the chicle gum, which goes all to the United States, where it has obtained an enormous popularity, lately comes nearly all from Tuxpan, with an occasional shipment from Tampico and other ports. Honey is also shipped to the States from Tuxpan and Tampico. The principal port for indigo is Tonalá, but Salina Cruz and Vera Cruz also participate to some extent in the business. About two-thirds of the Mexican indigo are sent to France, and most of the remainder to Germany. As regards sarsaparilla the export figures bear witness to a heavy decline in the output, but with jalap the case is rather the reverse. Of this root more than four-fifths comes from Tampico, about one-eighth from Tuxpan, and the inconsiderable residue from Vera Cruz and Matamoros. The United States receive one-half of the root, France a quarter, and the rest goes to England and Germany. Of the Mexican vanilla, which is brought into commerce mostly *via* Tuxpan, and partly through Vera Cruz, nearly all goes to the States, and a little to France.

Banking in Mexico.

The Mexican Government has lately granted a number of charters for the establishment of banks in various towns of the Republic. Hitherto banking in Mexico has been confined mainly to two banks and their branches, viz. the Bank of London and Mexico and the Banco Nacional de Mexico. This new departure has stimulated business of all descriptions, and has affected the rate of interest (upwards of 8 per cent.) at which money used to be borrowed in the capital.

SIAM.

Dyeing Materials.

The export, from Bangkok, of dye-woods, gamboge, indigo, and other materials used in dyes, shows no increase, the fact being that chemical dyes are now rapidly supplanting the vegetable. The smallness of the amount of cutch exported is remarkable. In Burmah this article of jungle produce has risen to a very important item in the export, and there is every reason to believe that there is plenty of cutch in Siam also. It would be worth the while of the Siamese Government to investigate the reasons why more is not made of this source of natural wealth in the country.

TURKEY IN EUROPE.

Antimony.

Three antimony mines have been recently opened in the Salonica district, and on the whole are successfully worked—two by British subjects and one by an Austrian company. The ore, of which about 300 tons have already been exported—chiefly to the United Kingdom—is of very good quality, and costs about 10*l.* per ton “f.o.b.” at Salonica.

Foreign and Colonial.

RUSSIAN PHARMACEUTICAL STATISTICS.—The Russian "Medical Department" keeps an elaborate account, not only of the number of pharmacies and pharmacists in the Empire, but also of the number of prescriptions dispensed and the prices paid for them. From the statistics over 1887, which have only just been published, it appears that there were then in European Russia 3,913 qualified pharmacists and 2,151 apprentices, about one-fourth of these being located in the Baltic provinces alone, which form a very small part of the country so far as superficial area is concerned. In the Caucasus there are 189 pharmacists and 85 apprentices, in Siberia 45 pharmacists and 17 apprentices, and in the Central Asian territories 18 pharmacists and 7 apprentices. There is a decline in the number of pharmacists of 163, as compared with the previous year, but there are 150 more apprentices. There are 2,616 pharmacies in the Empire. Some curious figures are given with regard to the medicines dispensed, of which the following table is a synopsis:—

	Number of Pharmacies	Prescriptions Dispensed	Takings from Prescriptions	Takings from other articles
European Russia . .	2,430	13,911,637	Roubles 6,715,555	Roubles 3,978,928
Caucasus	136	577,507	346,504	234,389
Siberia	36	224,999	114,750	74,382
Central Asia . . .	14	81,213	37,358	20,901

	Total Takings	Average Charge for Prescriptions	Average Turnover per Shop
European Russia . .	Roubles 10,694,483	Rouble 0.48	Roubles 4,401 = about £440
Caucasus	580,893	0.60	4,271 " £427
Siberia	189,132	0.51	5,254 " £525
Central Asia . . .	58,259	0.46	4,161 " £416

BAHAMA SPONGES.—An occasional correspondent, writing from Ibaco, Bahamas, to the *Oil, Paint, and Drug Reporter*, has the following to say about the sponge-fishery of that locality:—

The Bahama water is so clear that sponge-fishers, by looking through a half-submerged pail with a glass bottom, can distinctly see those forms of marine-plant life which exist as far as seventy feet below the surface of the sea. The sponges which are selected by the crews of the sponging-schooners are those which grow from twelve to thirty-five feet below the surface, and are pulled from their beds on the coral rocks by hooks at the ends of poles called "cranes," varying in length from fifteen to thirty-eight feet. The living sponges are malodorous, slimy, elastic, repulsive articles, soft and slippery, and resemble nothing so much as pieces of raw liver. In colour they range from a neutral purple through brown to a dark grey. The many-celled animal-plant is washed, rubbed, cleaned, and dried. Long before the manipulation is finished the slimy little protozoa are washed and rubbed out of their cells, and give up the ghost. When the drying is complete the sponges are strung upon cords, twelve or thirteen of them making a "strand." They are then washed down with buckets of salt water, morning and night, until a week before they are taken to the sponge exchange at Nassau, the central market for all the Bahama islands, during which week they are subjected to a final curing process. In case, however, that it is known that an interval of several weeks will elapse before the schooner sails for Nassau, the strands are deposited in "crawls," or submerged store-houses made in the form of a stockade, with a covering of tropical twigs, which at high tide is just awash. After a cargo has been sold at the exchange the roots of the sponges are cut away and any cells which contain coral sand are carefully cut out. The sponges are then trimmed and pressed for exportation.

There are about fifteen varieties of sponge in the Bahamas not including the land species. The "grass" sponge is a coarse, stringy affair not unlike wire grass, and the "wire" is like unto it. The "cup" is a peculiar growth, generally, fine and delicate, and has a cavity in the centre, which makes it resemble the domestic article from which it takes its name. The "wool," particularly the "lamb's wool," is delicate in texture, but strong, and not ordinarily as compressible as the "yellow." The "glove" is a swell in more than one sense. Other varieties are the "bouquet" and the "silk." About 400,000 strands are annually sold in Nassau, and the annual trade in sponges in the Bahamas amounts to about 60,000*l*. Sponging is the occupation of about 4,000 Bahamians.

Sponges are more plentiful than cloth in the Bahamas, and are made to perform many of the functions of cotton and woollen cloths. They are used to clean culinary utensils and to remove sand or dust. They also make excellent mops and towels. As a bonnet decoration a unique specimen of the cup variety is prized by damsels of Ibaco. "Yellow" sponges are made into cushions and pillows. A sponge as large as a bushel basket is often used as upholstery for a chair on the stern seat of a boat.

THE BAKU OIL WELLS.—Under Russian rule Baku has grown from an insignificant number to some 70,000 or 80,000 souls, and is still rapidly growing. It is the busiest port on the Caspian, and possesses great natural wealth, having in continuity to it the great oil wells, which are generally admitted to be the most bountiful in the world. This crude petroleum is refined in Baku and shipped thence in steamers up the Caspian, and from there by the Volga, and distributed on different lines of rail through Russia and Germany. Eventually it is intended to construct a pipe line conveying the oil, parallel with the present line of rail, from Baku over the Caucasus, *via* Tiflis to Batoum, on the Black Sea, and thence by tank steamers to England and other countries. The oil fields are about seven miles from the town and the temple of the fire-worshippers about eight. Looking to our right, we see the burning sun glinting on the waters of the bay, making us long for a bath in the briny water. Turning our eyes to the left, nothing is seen but a long, undulating waste of desert sand, with here and there a patch of dirty green camel thorn, the only plant that seems able to sustain life amidst the arid soil. Looking ahead we can see the oil derricks of Balakham rising like a mirage. Viewed from here the place looks like a forest of pine trees denuded of their branches. Along the ground are numbers of pipe lines. We can see them move as each throb of the pump sends a volume of crude oil from the well down to the refining works, situated close by. We are now drawing near to the wells, and just before approaching we notice some salt lakes, the edges of which are thickly coated with salt, and now we are fairly into the oil fields, where the air is impregnated with the gas given off by the oil. Within a few inches of an oil lake we dismount, the roads being impassable for vehicles. There are no oil fountains "blowing" to-day, casting the oil and sand two or three hundred feet into the air. Being dressed in old clothes, we are not afraid of a splash of muddy oil, so turn in to look at a fountain "flowing"; but before going in we extinguish our cigarettes, as the gases are very volatile. This fountain before us is under control by means of a bent pipe, which diverts the oil from the perpendicular and causes it to flow into a reservoir. The well is 800 feet deep, but the thundering roar with which the oil comes up the pipe and the sulphurous smell accompanying it almost suggest that it comes from a region still further down. This well is throwing up 900 tons of oil a day, from which the owner derives about 200*l*. If it were not for the pent-up gases in the earth being to a certain extent liberated by these fountains, the district would be very much subject to earthquakes.

PRODUCING DRUGS IN RUSSIA.—At the Russian Pharmaceutical Congress some particulars were given regarding the cultivation of drugs in Russia. Professor Tichomirow advised the growing of such plants as *Hydrastis Canadensis*, *Rhamnus Purshianus*, and *Podophyllum peltatum*, which, he said, could be profitably grown in certain parts of Russia, and Professor Batalin offered to supply Russian pharmacists with the seeds of exotic medicinal plants and information regarding their cultivation.

NEDERLANDSCHE PHARMACOPÉE.

THIRD EDITION, 1889.

Aqua Destillata—Gedestilleerd Water.

The absence of chlorides, sulphates, iron and organic compounds is provided for by regulation tests. The test for nitrites is to add 10 c.c. of dilute sulphuric acid to 100 c.c. of the water, then 5 drops of permanganate of potash solution, the colour of which should not be discharged after three minutes' boiling. This is a somewhat rigid test. A current of sulphuretted hydrogen is passed through the acidulated water to test the absence of metallic contamination.

The Pharmacopœia directs hypodermic solutions to be made with distilled water which has been recently well boiled. This is a good provision, as the decomposition of hypodermic solutions is frequently due to the action of the micro-organisms contained in the water, and the irritation caused by injections is directly traceable to this source.

Aqua Laurocerasi—Laurierkerswater.

The hydrocyanic acid strength of this water has been raised from '839 in 1,000 to 1 in 1,000, and it is now estimated by Liebig's volumetric method, using sodium chloride as an indicator. The manner in which this is done is not quite satisfactory. Soda is used in large excess, and there is scarcely any necessity for the indicator, seeing that silver cyanide begins to be permanently precipitated before the chloride is affected.

Bicarbonas Natrius—Natrium Hydrocarbonaat—Dubbelkoolzure Soda.

In addition to the tests for identity, one is given for the detection of arsenic (by the liberation of hydrogen in the solution, and the action thereof on silver nitrate), another for ammonia (thus recognising the ammonio-soda process), and others for metals and the mineral acids.

Carbonas Magnesticus—Magnesium Carbonaat.

We note that the synonyms for magnesium carbonate are "magnesia alba" and "magnesia." It is very unusual to apply these names officially to the carbonate. It is the light carbonate which is prescribed by the Pharmacopœia.

Cera Flava—Geel Was.

The specific gravity of yellow wax given in the old Pharmacopœia was 0.968 to 0.970; this has been altered to 0.956 to 0.967. Although the minimum is somewhat higher than that of the British Pharmacopœia, we question if pure beeswax is met with which falls under 0.960. Dieterich gives 0.963 to 0.967 as the reasonable minimum and maximum. The melting-point has been omitted, tests being added to exclude paraffin and other common adulterants of beeswax. It is declared that the wax should give a clear solution with eleven times its weight of chloroform; 1 grm. boiled with 3 grms. of sodium carbonate and 10 c.c. of water should not have more than a faint opalescence, and 1 grm. should form a perfectly clear solution with five times its weight of alcoholic soda solution.

Chloroformum—Chloroform.

The specific gravity has been lowered from 1.492-1.496 to 1.485-1.490. The effect of this is simply to allow the presence of a little more alcohol than formerly, as otherwise the chloroform must pass stringent tests of purity, such as freedom from odour after a little has been evaporated on filtering paper, absence of products which will affect silver nitrate and potassium iodide, or which will give any colour when equal volumes of sulphuric acid and chloroform are shaken up together. It is further stipulated that chloroform for inhalation shall stand the sulphuric acid test after twenty-four hours' contact; moreover, if 10 c.c. of chloroform, is added to 2 c.c. of a mixture of 149 c.c. of water and 1 c.c. normal alkali, and a drop of phenolphthalein solution put in the red colour should not disappear within twenty-four hours.

Citras Magnesticus Effervescens—Bruit Magnesia.

This preparation is introduced. It is made as follows:—Citric acid, 30 parts; magnesium carbonate, 10 parts; and water, 4 parts, are mixed, dried, and reduced to fine powder. Then it is mixed with sodium bicarbonate, 34 parts; citric acid, 16 parts; and sugar, 10 parts, previously dried at 30° C. The mixture is made into a paste with absolute alcohol, and formed into granules by passing through an A 3 sieve (3 millimetres). We presume that the editors do not imagine that large manufacturers will make the citrate in this way. They could not afford to lose the alcohol.

Cortex Chinæ—Kinabast.

As previously stated, red bark containing 5 to 6 per cent. of alkaloids is prescribed. The assay process is as follows:—Boil 10 grms. of the powder with 15 grms. of slaked lime and 168 grms. of strong spirit until the red colour of the solution changes to yellow. Allow to cool; bring the mixture to its original weight by the addition of spirit; filter, and to 84 grms. of the filtrate add 3 grms. of dilute hydrochloric acid and 10 grms. of water, and evaporate on a water-bath to 15 grms. Add sodium carbonate to the residue until the latter is only faintly acid; filter, and add soda solution in excess to the filtrate; shake up first with 20 c.c. and then with 10 c.c. of chloroform, or with more, if necessary, until the alkaloid is wholly extracted. The chloroformic solutions on evaporation should yield a residue, after drying one hour at 100° C., weighing 0.25 to 0.3 grm. It is stipulated that the residue should yield 55 per cent. of tartrates (equal to about 45 per cent. of quinine and cinchonidine), when the residue, exactly neutralised with hydrochloric acid, and dissolved in 10 grms. water, is treated with its own weight of sodium tartrate, collected, washed, and dried at 100° C. Ten mgms. of the tartrates should respond readily to the thallioquin test.

Cortex Granati—Granaatbast.

This bark is to be assayed by a process somewhat similar to that adopted for cinchona with some slight differences in details, and the yield of alkaloid should be 1 per cent.

Ferrum Reductum—Gereduceerd Ijzer

Should contain 86 per cent. of metallic iron. This is determined in the following manner:—0.1 grm. of the iron, 20 c.c. dilute hydrochloric acid, and 0.05 grm. of potassium chlorate are warmed together until the chlorine odour is driven off. Then mix the solution with 75 c.c. of water, heat to 50°, add 8 c.c. potassium iodide solution (1 in 10), and titrate with decinormal sodium thiosulphate, of which at least 17.2 c.c. should be required. This, it is evident, will give the total iron in the sample (17.2 c.c. = 96.32 per cent.). To find out the amount of unoxidised iron in the sample one has to use the following formula (A being the total percentage of iron in the sample):—

$$\frac{29A - 2.100}{8} = \text{per cent. unoxidised iron.}$$

We quote the assay process because it is used for ferric salts. We cannot say that we take kindly to it as applied to reduced iron. It would have been much easier, and equally reliable, to have digested a known weight of the sample with a specific weight of either bromine or iodine. Still, there it is, and doubtless there is this to be said in its favour, that we arrive at the percentages of combined and uncombined iron in one assay and several arithmetical exercises.

Hydrochloras Cocaini.

Giesel's permanganate test, and strong sulphuric acid, are used for detecting impurities, such as amorphous alkaloid, benzoyl, ecgonine, &c. The best of all tests—Thompson's ammonia one—is omitted.

Oleum Anisi—Anijsolie.

The specific gravity of this oil is given as 0.980 to 0.990. It is distilled from the fruit of *Pimpinella Anisum*, and is said to solidify into a mass of crystals at 9° C., and to fuse again at 15° C. After Mr. John C. Umney's clear statement as to the conditions under which oil of pimpinella anise solidifies at 9° C. we should have thought that Pharmacopœias would be precise in regard to the conditions under

which this oil solidifies at 9° C. As it happens it only does so when the liquid is at perfect rest, but if agitated it solidifies at 12° C.

Opium.

Smyrna opium, which, when dried at 50° C. and powdered, should contain about 10 per cent. of morphine and 50 per cent. of dry extract. The assay process is substantially the same as the B.P. one, there being slight modifications of the details, such as adding 5 drops of benzol to the 10 c.c. of ether used for shaking up with alkaline solution. The morphine crystals are finally washed with 40 per cent. alcohol.

Quinine Salts.

Hydrobromate, Hydrochlorate, and Sulphate.

The descriptions and tests given for these salts are necessarily very much alike. The only tests which need be referred to are those for the detection of inferior alkaloids. In the case of the hydrobromate and hydrochlorate the alkaloids are precipitated by the addition of potassium sulphate. The actual quantities are 2 grms. quinine salt in 10 c.c. warm water and 0.5 gm. potassium sulphate; 20 c.c. of water added, and the whole kept at a temperature of 60° to 65° C. for half an hour; and afterwards allowed to cool for two hours, until it reaches a temperature of 15° C., when it is filtered. Five c.c. of the filtrate with 5 c.c. of ammonia should not give a precipitate. The hydrobromate loses 5 per cent. and the hydrochlorate 9 per cent. of its weight at 100° C. The way that the sulphate is tested is this:—2 grms. is heated by itself for half an hour at 40° to 50° C.; then with 20 c.c. of water for the same time; and thereafter brought up to the 60° to 65° C. The subsequent stages of the test are the same as in the previous cases. The salt should lose not more than 15 per cent. of its weight at 100° C. The test adopted (a modification of Kerner's) is, perhaps, not the best which could be adopted for proving the presence or absence of inferior alkaloids; but it so happens that the Pharmacopœia follows the example of its bigger brothers in this instance. In spite of that, we think that the smallest compliment which could have been paid to the veteran Dutch quinologist, Dr. de Vrij, would have been to adopt his improved chromate test, which is as good as Kerner's, and, if anything, easier applied.

Quinine tannate should yield 20 per cent. of quinine.

Volumetric Solutions.

Acids: Hydrochloric, oxalic, and sulphuric. *Normal.*

Alkalies: Ammonia and soda. *Normal.*

Silver nitrate, decinormal and centinormal. (*Note.*—The Dutch decimal solutions are what we call centinormal. We have used the English expressions.)

Iodine and sodium thiosulphate. *Decinormal.*

Potassium permanganate, $\frac{1}{1000}$. *Normal.*

INDIAN COTTON-SEED OIL.—In spite of the fact that India is one of the principal cotton-growing countries, that dependency in 1888 supplied only 4,000 out of the 250,000 tons of cotton-seed oil consumed in the United Kingdom. The cause of this disproportion lies partly in the impracticability of entirely freeing Indian seed from the adherent fluff. No machine has yet been found capable of cleaning Indian cotton. But the crux of the matter is that Indian cotton seed contains a much smaller percentage of oil than that of America and Egypt, and that, moreover, all vegetable oils command high prices on the native market. This disadvantage under which Indian cotton seed labours is all the more regrettable when it is considered that it tends greatly to encourage carelessness in the ginning; whole seed being no great object, less attention is naturally devoted to the operation, the result being an undue proportion of crushed capsules left in the cotton, and consequently more or less depreciation in the market value of the staple. A reference was made on this subject by the Agricultural Department some time ago in connection with the possible risk of spontaneous combustion from the existence of a readily oxidised oil in the cotton; but the matter has apparently been allowed to drop, presumably owing to the fact that Indian seed contains comparatively so little oil that there is not much danger from its presence in the raw cotton.

NOTES ON MEDICINAL SOAPS.

EICHHOFF, at the request of Unna, has been studying the composition of soaps. In his report, an abstract of which appears in the *Edinburgh Medical Journal*, he shows that a good soap should remove the superficial fat and the accumulated dirt without injury to the epidermic cells. The lubrication of the horny layer, according to the most recent researches, is effected by the imbibition of fat from two sources—from the eleidin originating in the epithelium, and the fatty secretion of the oil glands. This fat forms the natural protection of the horny layer, and a soap which contains any free alkali not only removes this but acts destructively on the superficial cells. All soaps made of, or which contain, cocoa-nut oil are unsuitable for the skin. Besides its cheapness, cocoa-nut oil saponifies at a much lower temperature than other fats, but it needs a stronger ley. Such cocoa-nut soaps lather well, and clean the skin admirably, but in consequence of their high percentage of free alkali, they remove with the dirt some of the outer layers of the skin and leave it "chapped." Most persons who suffer from chapped hands owe this to the use of an unsuitable soap. To prove the neutrality of a soap, a simple test is applicable. A little of a hot solution of corrosive sublimate is allowed to drop on a freshly cut dry surface of the soap. Should a trace of yellow appear, due to the formation of oxide of mercury, free alkali exists in the soap; it is not neutral, as it should be. A neutral soap ought not to cause a pricking sensation when touched by the tongue (or cause the least smarting of the eyes when the face is washed with it). It is not, however, easy to make, and the price is necessarily high. It can be made by Liebreich's method of double centrifugal action. But of most value are the over-fatty or super-fatted soaps introduced by Unna. The formula for such is—

Best beef tallow	..	..	..	59.3 per cent.
Olive oil	..	..	..	7.4 "
Soda ley (38° Beaumé)	..	..	..	22.2 "
Potash ley (, " )	..	..	..	11.1 "

In the preparation of this, about 4 per cent. of the olive oil remains unsaponified. This is the best basis for medicinal soaps.

The following are some of the soaps which are recommended in the treatment of skin affections. The basis is that given above:—

Salicyl-Resorcin.—Contains 3 per cent. of salicylic acid and the same of resorcin. It is used in eczema seborrhœicum, psoriasis, acne, and ichthyosis. In the milder forms the soap can be used simply to wash the affected parts with, while in more severe cases it is rubbed firmly in and the lather allowed to dry on, or the part can be enveloped, in addition, with gutta serena tissue.

Salicyl-Resorcin-Sulphur.—The same as the preceding, with the addition of 10 per cent. of sulphur. This soap should not be used in inflammatory cases, but where the disease is chronic and deeply infiltrated. Tar is sometimes added to the soap.

Quinine.—3 per cent. quinine sulphate.—Used for tinea versicolor, and the intertriginous eczema of children. Applied as above stated.

Hydroxylamine.—3 per cent.—For psoriasis, parasitic syphilis, and lupus.

Iodoform.—5 per cent.—The odour is much masked by the soap. Used as a disinfectant for the hands, and to cleanse and stimulate weak ulcers.

Creolin.—5 per cent.—For treating scabies. The body is washed and the lather of the soap allowed to dry on. Also for sweating of the feet. The feet are washed and well rubbed with the soap at night and the lather allowed to dry on. In the morning they are once more washed with the soap. The stockings must be changed at least once a day.

THE connection between bacteria and disease is such as to prove that a ferment is produced in the surrounding media; in fact, an animal alkaloid is generated, and this alkaloid is really the cause of the specific disease, and not the bacteria directly. We must rather look upon the bacteria as a means to produce certain fermentive results.

COMMERCIAL OIL OF CINNAMON.

MR. FRANK E. BALLARD, manager to Messrs. A. Moore & Co., of Smyrna, sends us the following interesting notes on the commercial tests for cinnamon oil:—

While living in Ceylon it was often my duty to examine and report upon various samples of the cinnamon oil of commerce, and to write certificates as to its specific gravity, it being the custom for Colombo merchants to send a sample of the article to a chemist for examination before accepting a consignment from the native producer, or giving an advance upon it pending its transmission to and sale in a European market.

This special work was quite new to me, so I began reading up the subject as far as possible, and at the outset found some little difficulty, by reason of the variations in specific gravity given by the various authors I consulted, no two of them being alike. Books failing me, I began questioning the buyers I met as to the means they adopted.

A gentleman told me he tested his samples by allowing single drops of the oil to fall into a glass beaker of water, and judged by the relative rapidity or slowness with which they reached the bottom as to their freedom from adulteration, the deduction being, that the lighter the oil the slower it travelled, and *vice versa*. Rather a risky and unsatisfactory operation, anyhow! Another buyer staked his money on his taste, and defined a good oil as one which tasted very sweet in the mouth, and left no hot, peppery after-flavour. This test, I afterwards found, had a certain amount of value. The specific gravities given in the books I consulted varied between 1.026 and 1.035, which leaves a very wide margin of doubt and uncertainty when applied to such a product as cinnamon oil.

I next tried to get a guaranteed specimen of pure quill oil as a standard. This was unobtainable, no merchant being able to state from what part of the plant any oil he had had been distilled. It would not have done to depend upon a native specimen, so I was under the necessity of distilling it myself. This was done, and by careful collection I got 1½ oz. of oil from 12½ lbs. of bark, all quill.

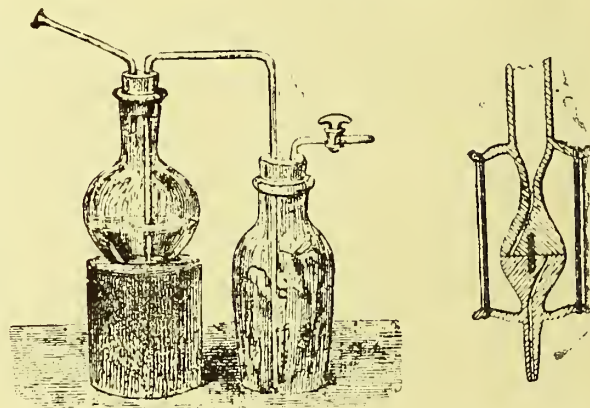
But such an oil! beautiful to see, delicious to smell, and as different from the native product as creosote is different from crystal carbolic acid. It was of a bright pale golden colour, sweet taste, rapidly diffused, and leaving no bitterness on the tongue. Its sp. gr. was 1.019.

Now, whence came such abnormal sp. gr. as 1.026 and 1.035 I shall be able to show. On inquiry from distillers I found that they can produce, practically, as many grades of oil as they please at specific gravities between 1.019 and 1.045. The finest and lightest oil is the product of quill bark alone and will not vary in sp. gr. more than between 1.019 and 1.021. A second quality is produced from chips, root bark, broken quill, and the cinnamon *débris* of the factory generally. The sp. gr. of this oil will vary between 1.025 and 1.032. A third oil is distilled from the leaves alone, and is very different in its characters from the other varieties. It is light brown in colour, and sweetish, but it leaves an acrid burning taste on the tongue, and its odour is rough, and when smelled after a fine quill oil, it is decidedly unpleasant. Its sp. gr. varies, but, as a rule, will be from 1.040 to 1.045.

With these data it is easy to understand the errors in description of specific gravities given by various writers on materia medica and pharmaceutical chemistry. They have never had a pure sample of oil for examination, but simply the common market variety, which is never—so far as I could learn from native distillers—prepared from quill bark alone, but is, as a rule, a mixture of the varieties named, in varying proportions. It would not pay them to send home a first-class oil, for the highest prices paid seldom pass 1s. 10d. per oz., and frequently an ordinary oil has been left unsold at 6d. or 8d. Consequently they send the bark to Europe, and make their oil from the refuse, and hence the sp. gr. is given in the United States Pharmacopœia as 1.040, and in Muter as 1.035; while MM. Salet, Girard, and Pabst, in the *Agenda du Chimiste*, give 1.033, and Hager 1.005 to 1.030. The British Pharmacopœia gives the *coup de grâce*, and tells us with the most charming naïveté that “it sinks in water.” What a lucid definition!

LABORATORY APPARATUS.

A SIMPLE substitute for Kipp's apparatus is proposed by Mr. Eustace Thompson, of Bradford (*Chemical News*). The apparatus consists of a 500 c.c. flask for acid, and a bottle, fitted with a tap-tube, for the marble, zinc, or ferrous sulphide. They are connected by a tube in the form of a syphon reaching to the bottom of each. The flask is also provided with a tube similar to the shorter tube of a wash-bottle, and for a similar service. When gas is required the tap-tube is opened, and the pressure within the flask increased just sufficiently to fill the syphon-tube with acid.



GAS APPARATUS.

BURETTE TAP.

Directly acid enters the bottle gas is evolved, and more acid flows over. If it is desired to stop the evolution the tap-tube is closed, and the pressure exerted by the gas confined in the bottle rapidly drives the acid into the flask again and empties the syphon. A German authority recommends the use of the burette-tap shown in the figure, in place of the ordinary stop-cock for titrations with permanganate. As will be seen, the upper and lower surfaces move over each other in a horizontal plane, being held in position by the central pivot and by the rubber bands at the side. The tap is said to be very useful and accurate in delivery.

THERE never was a time, says an American contemporary, “when the druggist needed current literature in the form of pharmaceutical journals more than at the present day. The market is flooded with new remedies of all kinds. Some are synthetical, some are analytical, some are vegetable drugs, but the doctors are prescribing all of them, and looking for new preparations of them as well as information such as druggists are able to give about the older medicines.” Text-books do not keep pace with the advances, and the only way to do so is to read THE CHEMIST AND DRUGGIST.

PHARMACY IN SAMOA.—According to a writer in the *Registered Pharmacist* there is only one drug store in Samoa, a small one recently opened by a colonial druggist from the Fijis. This store does a thriving business, for the proprietor, though not an M.D., is obliged to perform the duties of physician, surgeon, and druggist. Early each morning a number of natives gather in the yard in front of the store (for the store itself is not large enough to accommodate all the patrons at this hour), waiting to have their bottles refilled. The majority of the train are charged a dollar a week for treatment and medicine, and the large number of patrons makes it quite profitable for the druggist. The future cities of Samoa can safely be stated as Pago Pago and Apia. The former is the site of the United States coaling-station and on the direct line of steamship travel between Australia and the United States. It is one of the best harbours of the South Pacific, being almost entirely landlocked. Apia is the king's seat, and is largely populated by Americans, Germans, and English.

FRENCH MEDICATED WINES.

MEDICATED wines, or wines which profess to be medicated, form a very large, and, indeed, almost a predominating, feature of the retail stock of a French pharmacy. Their seductive charms have not attained the popularity they are unquestionably capable of acquiring in English businesses. The cause of their great popularity in France may, no doubt, be ascribed in the majority of cases to the care of the makers to avoid disagreeable flavours. Taking *cum grano salis* the stock assertion "that by the employment of new and improved methods of manufacture the makers have succeeded in depriving certain constituents of their wine of all disagreeable flavour, and by a judicious blend of wines have obtained a result pleasing to all tastes," we find that many of the popular medicinal wines of world wide reputation—such as Bugeaud's bark and cacao, Aroud's bark and beef, Laroche's quina, &c.—may almost be regarded as liqueurs, and, perhaps, in many cases are taken as such, the proportion of pharmaceutical ingredients being evidently kept within careful limits. Some of the wines sold by chemists must be very cleverly manufactured indeed. The famous Lavoix's beef wine contains, we are assured, 1 kilo. 90 grammes of the finest lean beef in each litre. We can but admire the artistic touch of the extra 90 grammes, and with this wine at 4*l.* per litre (wholesale) and beef at 2.50*fr.* the kilo., we are not sure it would not be economical to live on this compound exclusively.

The French medicated wines well known and well established in public favour, and kept in stock everywhere, are thirty-six in number, and these are not only sold all over France, but appear also in the patent-medicine or specialities lists of all other countries where French goods are imported. The three dozen varieties we allude to may be divided as follows:—Ten at least are preparations of cinchona bark, in combination with calumba, quassia, orange peel, extract of meat, iron salts, alkaline phosphates, &c.; six rest their remedial claims on calcic phosphate; eight are medicated with pepsin, peptones, papain, diastase, and other digestive ferments; two contain creosote; three owe their active properties to coca; and the remainder are depuratives, diuretics, &c.; while even cod-liver oil is presented in combination with wine in M. Vivien's preparation, though how the miracle is effected is a difficult problem. Besides this formidable array, every French chemist puts up some similar articles of his own, probably with the hope of some day finding himself within the circle of the great specialists.

In most cases the medicinal ingredients are added to the wines in the form of extracts. This method is preferred as the most convenient and economical, giving more uniform results, and avoiding the loss of wine consequent upon maceration. As regards wine, the French Codex for all the official wines orders Grenache, a sweet, full-bodied wine from the Pyrenees department. This selection was probably directed by the patriotic idea of substituting a national product for the Spanish and Italian wines formerly employed. Be this as it may, the popular preference for Marsala and Malaga remains, although it may safely be said that in the majority of cases the wines supplied under these names have never been within the shores of the countries which gave them their titles. The choice of wine for the vehicle must necessarily be regulated by the price obtained, and the district where the manufacture is carried on; but, as a rule, a judicious blend of Marsala or sherry with Malaga is probably the best, the proportion of the sweet wine varying according to the amount of active constituents. It is also a good precaution to estimate the alcoholic strength, which should be about 14 per cent. In case of deficiency alcohol should be added to bring the wine up to the standard.

For bark wine a fluid extract of cinchona may be prepared by exhausting a given proportion of yellow bark (the *C. succirubra* is too bitter), first, by percolation with proof spirit, then with distilled water, the latter percolate to be reduced by evaporation, until an extract is obtained repre-

senting one-third of its weight of bark, and containing one-fourth of its weight of rectified spirit. One ounce of the extract thus obtained should medicate one pint of wine.

The outer shell of the cacao bean offers a valuable and inexpensive flavouring ingredient, and is not without dietetic value; the fluid extract may be made by percolation with distilled water, and subsequent evaporation, so as to yield a product which, with the addition of 20 per cent. of rectified spirit, will represent an equivalent quantity of the shells employed. This extract, combined with that of bark, makes a tonic nutritive wine of cinchona and cacao, and with the addition of 20 grains of citrate of iron and quinine per pint gives a ferruginous variety. Wines thus prepared all possess an agreeable flavour.

Coca wine is also more advantageously prepared by first manufacturing a suitable extract, obtained by percolating 100 parts of leaves with 200 of proof spirit, exhausting with distilled water, and evaporating the liquor so that the total product equals 200 parts. Two ounces of this extract added to 40 oz. of wine, with the addition of 30 drops of tincture of vanilla, form a coca wine of excellent quality and flavour.

Wine of beef, bark, and phosphates may be prepared from the cinchona extract, combined with 30 grains of Liebig's extract, and 60 grains of phosphate of potash per pint.

In all cases wines should be prepared some three months in advance, and allowed to mature, so as to avoid as much as possible any deposit when bottled; some manufacturers even keep them two years in wood. The above wines are only types of many varieties now before the public, and can be varied in many ways, always bearing in mind that an article to be popular must be pleasant. A cognate industry of almost equal importance is the putting up for sale of the various essences or fluid extracts in small bottles, containing the exact amount necessary to add to a bottle of wine. Specialities of this kind are very popular, as the purchaser economises by using his own wine. A 1-oz. or 1½-oz. bottle, generally a flat panelled one, is the usual quantity supplied, and may be labelled thus:—"Concentrated Essence of Peruvian Bark, for preparing instantly a bottle of bark wine. Instructions: Mix the essence contained in this bottle with a bottle of good wine; leave it to settle if necessary, and it is ready for use." In England the label might be varied, stating that the extract could be used with water to suit abstainers, or, in the case of coca, can be taken with hot water and milk, the same as tea. Such extracts are sold generally at 10*d.* or 1*s.* per bottle.

PINOL.—An isomer of camphor, $C_{10}H_{16}O$, has been prepared by Drs. Wallach and Otto in the chemical laboratory of the University of Bonn. This new substance, according to *Liebig's Annalen*, is a liquid, to which the name "pinol" is provisionally given, possessing a very strong camphor-like odour. It is obtained by the action of hydrochloric acid upon a well-cooled mixture of turpentine oil, glacial acetic acid, and ethyl nitrite. The hydrochloric acid is gradually added, and its addition is followed by the separation of crystals of the nitroso-chloride of pinene, and the formation in the solution of pinol. After standing for about twelve hours at a low temperature the crystals are filtered off, and the filtrate is distilled in steam. The pinol is thus separated, but is redistilled several times, until the principal fraction, consisting of pinol with a small quantity of impurity, passes over between 182° and 188° C. Pinol is a liquid, and possesses in a very marked degree the odour of camphor. Bromine yields with it a beautifully crystalline dibromide, $C_{10}H_{16}OBr_2$, which yields pure pinol on saponification, dried with potash, and fractional distillation. The pure pinol thus obtained boils at 183–84°. Analyses of this product conclusively point to the formula $C_{10}H_{16}O$, the same as that of ordinary camphor. Its constitution is proved to differ, however, from the latter body by the nature of its oxidation products. It will be noticed that "pinol" is the name which has been given to a special oil of the *Pinus pumilio*. Although no confusion is likely to arise in chemical literature in consequence, it is rather odd that the new camphor isomer should be so named. *Nature* points out that the nitrosochloride of pinol forms with β -naphthylamine an interesting base, $C_{20}H_{21}N_2O_2$, isomeric with quinine.

Trade Report.

Notice to Retail Buyers:—It should be remembered that the quotations in this section are invariably the lowest net cash prices actually paid for large quantities in bulk. In many cases allowances have to be added before ordinary prices can be ascertained. Frequently goods must be picked and sorted to suit the demands of the retail trade, causing much labour and the accumulation of rejections, not all of which are suitable, even for manufacturing purposes.

It should also be recollected that for many articles the range of quality is very wide.

42 CANNON STREET, E.C., December 27.

BUSINESS is now virtually suspended in the Mincing Lane markets, and we do not look forward to the serious opening of the new season's trade in the drug market until about the second week in January. There are only a few changes of any importance to record in the private markets. From New York we hear that the price of all varieties of copaiba balsam is still advancing, while in cascara sagrada there has been a very considerable business, but more particularly for home consumption than for export. The whole of the new crop of Angostura Tonquin beans has been cornered by speculators. The London market, so far as regards drugs is without much business worthy of note. In quinine some business was transacted just before the holidays at 1s. 2½d. per oz. for German bulk in second hands (April-May delivery), and subsequently a parcel of 8,000 oz. of spot stuff is said to have changed hands at 1s. 2½d. per oz. Quicksilver is dull, and has been sold as low as 9l. 6s. in second hands, though after that transaction there does not appear to be anything in the market at less than 9l. 6s. 6d. The importers still hold at 9l. 15s. per flask. Mercurials are dull and drooping, but camphor remains excessively firm on the spot, and refined is held steadily at the recent advance. Shellac is quiet but steady. The latest business reported was in worked AC garnet on the spot at 67s. 6d. per cwt., and in orange TN for January delivery at 77s. per cwt. Gambier is moving upward, and on the spot block has sold for 28s., and cubes for 40s. per cwt. In myrabolanes there has also been a strong upward movement lately, which is still proceeding. Chemicals generally maintain the positions occupied at the time of our last report, cream of tartar being worth 109s. to 110s. per cwt. for best white French crystals; tartaric acid 1s. 3½d. to 1s. 4d. per lb., according to brand; and citric acid 1s. 3½d. to 1s. 3¾d. per lb. The market for oxalic is quite unsettled, and we can only quote 3d. per lb. as nominally the nearest price. The future price of bleaching-powder appears to be taking shape on the Tyne, for whereas a few days ago prices were very low, and good qualities freely offering at 4l. 10s. per ton, a much better feeling is now noticeable, and the general quotation has risen to 4l. 17s. 6d. or 5l. per ton. Chlorate of potash is dull at 4½d. to 4¾d. per lb. on the spot, but for the coming year much better prices rule, viz., first three months, 4½d.; and contracts for the whole of the year 5d. per lb. Prussiate is exceedingly firm, and can now be quoted at nominally 9½d. to 10d. per lb., the cyanide following suit.

Oils are generally steady, but without much business. Coconut at 26s. 6d. for Cochin, 24s. for Ceylon and Mauritius; cotton-seed oil at 19s. 3d. to 19s. 6d. for crude, and 21s. 6d. for ordinary quality refined. Linseed oil is worth 20s. 6d. to 20s. 9d. on the spot, while for the first quarter of 1890 a slight advance must be paid. American petroleum oil 6½d. to 6¾d.; Russian, 5½d. to 5¾d.; palm oil, 25s. 6d. for fine Lagos; and turpentine, 33s. 6d. for American spirit on the spot, and 33s. 9d. to 34s. for the first quarter of 1890. Rape oil remains quiet at 32s. to 32s. 3d. for brown, and 33s. 6d. for refined oil. In the spice market a fair trade is reported in Zanzibar cloves, for arrival, at a decline of about ½d., viz., from 5½d. to 5d. per lb. "c.i.f." terms for March shipment. White pepper has also attracted some attention, and is firm at 8d. for Penang and 11d. per lb. for Singapore on the spot; while for Siam, November-December shipment, 10½d. per lb. has been paid. The tea market is practically closed, but congou Assam and Ceylons are generally firmly held. The sales during January promise to be heavy.

SEQUAH INTERVIEWED.

OUR Manchester correspondent writes on December 23:—This is Sequah's fifth week in Manchester. His gilded chariot has become a familiar object in our streets, and his huge advertisements in the local dailies have made many of our shopkeepers green with envy at his enterprise. The money so spent has not been thrown away. One afternoon this week I visited the premises in Oxford Road, where he has been doing business, and found there some four or five thousand people, all full of the praises of the great medicine-man. There was the customary tooth-extraction, followed by the lecture on the merits of "Sequah's Oil" and the "Prairie Flower," then an illustration of the effects of the medicine on a man suffering from rheumatics, who had to be carried on to the carriage, but was able after treatment to walk away without the aid of his crutches, declaring that he had been absolutely relieved of pain. Next, the testimonies of a number of people who spoke to having been cured by the medicines, and last, but not least, the sale of the oil and the "Prairie Flower." This was certainly the most striking part of the proceedings. The people positively clamoured for the medicines. They pushed and jostled each other to get close to the carriage, and, taking off their hats and putting the money in them, beseeched "Sequah" for the medicines. At a rough guess I should say the receipts that afternoon—and the attendance was smaller than on most other days—would amount to between 150l. and 200l. Another performance was given in the evening, at which the results were still more satisfactory. Between the afternoon and evening performances I had a small chat with this particular "Sequah." He is a pleasant-spoken, clean-shaven young gentleman, with finely-chiselled features, and a luxurious crop of fair hair brushed well back from the forehead. If you did not know who he was, you would probably guess he was an actor from an adjoining theatre. His accent was beyond doubt acquired within sound of Bow Bells. He was very happy to meet a representative of THE CHEMIST AND DRUGGIST. He reads the paper regularly, and is, in fact, as I gathered, never happy till he gets it. Did he mind telling me, then, whether he was the old original "Sequah" or only a base imitation? "Not at all," he said; "I am 'Sequah.' I am entitled to use the name, and there are a number of others, all of them in the service of 'Sequah (Limited).'" We are all on the road simultaneously in different parts of the country. This is the explanation of the multiplication of 'Sequahs,' which has been more than once referred to in your journal. We take care that all who use the name 'Sequah' are genuine vendors of our medicines—or, rather, advertisers of our medicines—for, although we do sell, our chief object in going about in this way is to make our medicines known, and create a demand for them, which demand can be met by the druggists who sell them. We try to be on good terms with the druggists, but they are not invariably fair to us." And then the medicine-man proceeded to tell me of his success in Manchester. At Huddersfield, at Ashton-under-Lyne, and at Bolton he had done well, he said; at Oldham he had drawn about 4,000l. in three weeks. But all these successes paled before what he had done in Manchester. "Last Thursday night," he added in a tone of pride, "we had about 10,000 or 12,000 people present. It was what we call 'testimony night,' and twenty-seven people came on the carriage and testified to the benefits they had received from me. They presented me with this, of which, I can tell you, I am very proud." He lifted a prettily-illuminated address which was standing on a side-table in the office, and handed it to me for inspection. It had been presented to Sequah, it stated, by a number of people who referred in effusive terms to "the very great and lasting benefits" they had received from him during his stay in Manchester, and concluded with the following words:—"We humbly pray the Almighty Father may spare you for many years, so that your great, noble, and Christian work may be continued."

MESSRS. BURROUGHS, WELLCOME & Co. offer to supply chemists with advertising pictures in photomezzotype representing a child in a bath.



LEGAL QUERIES.

196/37. *Test Tube*.—We do not reply to anonymous inquirers.

202/16. *Tintagel*.—The widow's act of bankruptcy would not deprive her of whatever rights she may possess as an executrix under the Pharmacy Act. But if her bankruptcy compels her to abandon the business which was her deceased husband's, she would not have the right to open a new business.

201/56. *W. F. G.*.—We do not think your announcement would be regarded by a Court as an infringement of the Dentists Act, but we are not sure that some of the dentists' societies might not give trouble about it.

202/43. *Sigma*.—We should say the quinine and iron tonic label would not render the medicine liable, but that the corn and wart paint label would. Our opinion is based on comparison with labels quoted in Alpe's "Treatise"; but as yours are not exactly similar to those, you can only be quite certain by inquiring from Somerset House.

Correct Scales.—H. Rees, "Druggist," and others.—In the paragraph headed as above on page 866 of our last issue it should have read that the liability to the penalty for using unstamped scales is incurred after January 1, 1891 (not 1890), the twelvemonths being allowed for the verification and stamping of all tradesmen's scales.

204/28. *Inquirer*.—We should not expect that the title "Lavender salts" simply could be registered as a trademark; it is undoubtedly descriptive. Probably it is registered with some design or with the maker's name. To ascertain you must make a search at the Trade Marks Office, Southampton Buildings, Holborn, paying 1s. per quarter of an hour. If it is registered you can only get it removed by action.

203/31. *Avis* asks whether the exposition in a chemist's window of such goods as B41 pills, Brou's injection, Grimault's injection and capsules, Durrant's capsules, suspenders, and gonorrhoea bags, syringes, &c., could be regarded as an offence under the Indecent Advertisements Act, 1889. The appliances certainly could not be brought within the Act. The labels on the injections, &c., if affixed to anything so as to be visible to a person passing, might be regarded as an advertisement to which the Act is applicable. The punishment for such exposition is a penalty not exceeding 40s., or, in the discretion of the Court, imprisonment for any time not exceeding one month, with or without hard labour.

MISCELLANEOUS INQUIRIES.

A large number of correspondents ask us for formulæ and other information already published in this journal. It is not fair to more careful readers that we should frequently repeat such information, and so long as the back numbers containing the formulæ or replies required are in print we must decline to do so. Back numbers of our weekly issue can be obtained from the publisher at 4d. each.

204/4. *J. B.*.—Cement for Pianoforte Keys.—A solution of celluloid, 1 part, in methylated ether, 6 parts, is probably what you want.

199/59. *Assistant*.—(1) Not pharmaceutical. (2) If glycerine, vaseline, &c., have failed to cure **Chapped Hands**, we should think that there is a want of due care in keeping the skin clean and drying properly after washing. Is this not so?

201/67. *A. P.*.—Have you not read the article on influenza which we gave on December 14?

201/58. *Yorkshire*.—**Spirituous Solution of Otto of Rose**.—The portion which separates is the inodorous stearoptene. We have no data upon which we could give the solubility of the otto in rectified spirit at 45° F. It would much depend upon the nature of the otto, some containing more stearoptene than others. Have you tried Mr. T. B. Groves's method of keeping the otto liquid, viz. by adding 1 part of chloroform to 3 parts of otto?

199/30. *F. E. J.*.—We have made inquiries, but have failed to hear of lamp-chimneys made of talc.

201/10. *M. O.*.—Consult Ince's "Latin Grammar of Pharmacy."

201/9. *W. H. D.*.—(1) Mr. H. Groves did not write on the subject. His paper entitled "Then and Now" will be found in our issue for July 26, and the paper on the manufacture of peel essences in our issue for August 24. (2) **MacLagan's Cocaine Test** was given in this journal on March 5, 1887, page 297, and we have repeated it frequently since. It consists in dissolving 1 grain of the hydrochlorate in 2 oz. of distilled water, and adding 1 or 2 drops of ammonia solution. We have found 1 oz. of water to give better results. If the sample is pure and free from amorphous cocaine, on stirring the ammoniated solution a few seconds cocaine hydrate separates out in crystalline form, and falls to the bottom, leaving the supernatant solution clear and free from opalescence. If at all milky the presence of amorphous cocaine is indicated. For fuller particulars we must refer you to the issue mentioned above.

200/63. *Varnish*.—It is difficult to give an opinion about the varnish, without an examination of the materials, and that you yourself can make. We suspect that the finish is the offending factor, although the whitish spots seem to indicate that the fat of the shellac has come to the surface.

202/44. *Tereb.*.—There is a fair chance for a moderate number of qualified men in South Africa, but it would be wiser to consult with one of the South African firms who advertise in this journal before going.

199/71. *R. P.*.—You do not conform to our rules.

200/1. *E. C. F.*.—(1) We must refer you to our advertisement pages for the information. (2) Some laudanum drinkers have taken as much as a pint per day. The habit unquestionably affects the health, and may shorten life.

201/20. *Nemo*.—Skullcap is *Scutellaria laterifolia*, and is an herb much used by herbalists for nervous diseases.

201/65. *J. L.*.—Magnesium chloride is a comparatively harmless thing, but that cannot be said of potassium chlorate. The latter is good in small doses, and if you were to add it in the proportion of 2 per cent. to your magnesium chloride preparation you would doubtless find it of advantage.

201/18. *J. C.*.—**Beef and Malt Wine**.—3 oz. of fluid malt extract and 1 oz. of extract of beef are sufficient for a quart of wine. You must detannate the wine; tarragona port is what is used. See the article in this issue.

202/7. 41.—**Spirit-gum for Florists.**—A solution of 1 part of common resin in 3 parts of methylated spirit.

202/17. J. B. F.—(1) **Bran-bread for Diabetes.**—The bran is freed from starch by making it into a paste with water, placing it in a bag, and washing with several successive portions of water. See our issue of March 9, 1889, page 340, for further directions. (2) We are not aware that the words "gripe water" are registered, and, being descriptive, we should think they are not registerable alone.

202/40. *Pompeii*.—**Acid Glycerine of Pepsin.**—There is not much trouble with this if you add to each pint an ounce of fuller's earth previously washed with hydrochloric acid and water. This carries down the pepsin, so that the clear portion of the glycerine may be poured off and the rest filtered.

MARRIAGE.

[Notices of Marriages and Deaths are inserted free if sent with proper authentication.]

FLETCHER—CONNOR.—On December 21, at the Parish Church, Leamington, by the Rev. — Noot, M.A., F. Fletcher, chemist and druggist, of Coventry, to Catherine, eldest daughter of the late C. Connor, formerly of Clontarf, Dublin. No cards.

DEATHS.

CARLTON.—On December 8, Mr. Edwin Preston Carlton, chemist and druggist, High Street, Doncaster. Aged 43.

ELMITT.—On December 10, Mr. John Henry Elmitt, chemist and druggist, Bull Ring, Horncastle. Aged 38.

FOWLIE.—At 4 High Street, Turriff, on December 22, George Fowlie, chemist. Aged 63.

FRIZELL.—On December 12, Mr. Richard William Frizell, chemist and druggist, Cranbourn Street, Leicester Square, W. Aged 51.

GODDARD.—On December 16, Mr. Henry Edward Goddard, chemist and druggist, Northgate Street, Great Yarmouth. Aged 73.

GODDARD.—On December 7, Mr. Benjamin Goddard, chemist and druggist, London Street, Southport. Aged 45.

GRAY.—On December 6, Mr. George Gray, chemist and druggist, Castle Street, Edgeley, Stockport. Aged 75.

MORRISON.—On December 2, Mr. Daniel Morrison, chemist and druggist, West Bow, Edinburgh. Aged 54.

WATERS.—On November 28, Mr. Thomas Waters, chemist and druggist, Caerphilly, Glamorganshire. Aged 75.

WOODCOCK.—On December 4, 1889, at 312 High Street, Lincoln, Mr. Page Dewing Woodcock, pharmaceutical chemist. Aged 70 years. Mr. Woodcock, who was the proprietor of the well-known wind-pills sold everywhere under his name, had been in business in Lincoln for over forty years. For some time past he had been in feeble health, and of late had lost his sight, but his family had not been specially anxious in regard to him. On the evening preceding his death he attended service at St. Catherine's Wesleyan Church, and, on reaching home, intimated that he did not feel very well, but it was thought to be only a temporary indisposition. When discovered in his bedroom the next morning it was evident that he must have been dead some time, as his bed had not been slept in. The deceased was extremely retiring in manner, devoting himself to his business, and he gained the respect and esteem of all his business associates.



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„ SALICYLIC (Kolbe's)	White, powder, crystallised and dialysed	Dissolves colourless in water or alcohol; purest for medicine.
„ TANNIC	Lightest crystals	Dissolves almost colourless in water, alcohol, and ether.
„ „	Powder and granulated	Dissolves freely in water, alcohol, and ether.
CELLOIDINE (Patent)	Gelatine plates... ..	Purest Pyroxylin; inexplusive.
CHLORAL HYDRATE	White cake and crystal	See Liebreich's, below.
CHLORAL HYDRATE (Liebreich's)	Transparent rhomboidals (facsimile of Dr. Liebreich's)	Will not decompose by age.
CROTON CHLORAL	Shiny crystalline scales. (Powder form most objectionable)	Free from foreign chlorides.
GLYCERINE... ..	S.G. 1260, double distilled, brilliantly white, odourless; also lower S.G. and qualities	Free from lime, chlorides, metals; will stand severest chemical tests.
IODINE	Resublimed, fine scales	Purest.
IODOFORM, Absolut.	Crystals and powder of soft touch...	Purest; made by electrolysis.
PARALDEHYD ... ..	... ..	Absolutely purest.
POTASS. BROMIDE	Fine white dry regular crystals ...	Perfectly free from iodide and the most free from chloride.
„ PERMANGANATE	Large and small crystals	Chemically pure.
„ IODINE	Fine white dry regular crystals ...	Apply Barytic and other tests. This will never change colour.
SODA SALICYLATE, and other Salicylates	White powder and crystals	Freely soluble in water and alcohol.

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ERGOTINE, pure Dialysed ...	Brown colloid, purified by Dialysis	Free from all saline matter present in the ordinary Ergotine and extracts.
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THE ORIGINAL AND ONLY GENUINE.

IMPORTANT CAUTIONS

From Lord Chancellor SELBORNE, Vice-Chancellor Sir W. PAGE WOOD,
and the LORDS JUSTICES OF APPEAL.

VICE-CHANCELLOR SIR W. PAGE WOOD, by whom the suit in Chancery was first heard, stated in his judgment that 'Dr. J. Collis Browne was undoubtedly the Inventor of Chlorodyne, that the whole story of the Defendant Freeman was as deliberately untrue as the falsehood he had deposed to with reference to the use of his Chlorodyne in the Hospital.'

The VICE-CHANCELLOR also stated, 'that Chlorodyne was a fanciful name, and had application been made sooner, the Court would have given Dr. Browne protection.'

LORD CHANCELLOR SELBORNE coincided with the judgment of the Vice-Chancellor upon this point, and stated 'that had application been made at a proper time and place, the Court would have found means to restrain the Defendant from misrepresenting the decision of the Vice-Chancellor.'

LORD JUSTICE JAMES, on appeal, stated in his judgment, 'that the Defendant Freeman had made a deliberate misrepresentation of the decision of Vice-Chancellor Wood.'

It was proved in Court, on affidavit by Mrs. Forbes, of Paris, that the testimonial published in the *Times*, November 14th, 1865, speaking of the great efficacy of Chlorodyne in Cholera, referred to Dr. J. Collis Browne's Chlorodyne, and that she never used any other, that she had written to the Defendant Freeman to that effect; notwithstanding which notice the Defendant publishes the said testimonial as referring to his medicine.

The Editor of the *Medical Times*, in his report on Chlorodyne, January 13th, 1866, gives information that the Chlorodyne referred to was the medicine introduced by a retired Army Medical Officer, which was Dr. J. Collis Browne; still this is published by the Defendant as testimony to his medicine.

Numerous affidavits from eminent Physicians and others were produced in Court, stating that Dr. J. Collis Browne was the inventor of Chlorodyne, and that when prescribing they mean no other.

The Defendant himself publishes that his compound is in effect and composition quite different to any other preparation; nevertheless he assumes the name, testimonials, &c., of Chlorodyne.

Technicalities in law prevent that protection which the public should justly have against such a course of conduct. It is now incumbent on all who purchase Chlorodyne to see that the name, 'Dr. J. Collis Browne's Chlorodyne,' is engraved on the Government Stamp, as it is not sold otherwise. All other compounds under the name of Chlorodyne are spurious. All attempts at analysis have failed; hence the statement that the constituents of Chlorodyne are known is a misrepresentation.

ORIGINAL AND



ONLY GENUINE

FURTHER IMPORTANT NOTICE.

The subjoined list of eminent Firms concur with Vice-Chancellor Sir W. Page Wood's statement in Court, that Dr. Collis Browne was undoubtedly the Inventor of Chlorodyne; and that when Chlorodyne, or the Original Chlorodyne, is ordered, they invariably supply Dr. J. Collis Browne's:—

Apothecaries' Hall,	London	Frazer & Green,	Glasgow	Morson, T., & Son,	London
Allen, Hanbury & Co.,	"	Gale & Co.,	London	Newbery & Sons,	London
Baiss Brothers,	"	Giles & Son,	Clifton	Oldham, G., & Co.,	Dublin
Banks & Richards,	Birmingham	Goulding, Messrs.	Cork	Parsons & Richardson,	Leicester
Barron, Harvey & Co.,	London	Gratton & Co.,	Belfast	Peake, Allen & Co.,	Dublin
Bell, John, & Co.,	"	Grimwade, Ridley,	London	Raines & Co.,	York
Bourne & Taylor,	"	Grindley & Son,	Chester	Raines & Co.,	Edinburgh
Corbyn & Co.,	"	Hearon, Squire & Francis,	London	Sang & Barker,	"
Cox & Gould,	"	Hodgkinson, Tonge & Stead,	"	Sanger, J., & Sons,	London
Curling & Co.,	"	Hopkins & Williams,	"	Sim, James, & Co.,	Aberdeen
Curtis & Co.,	"	Hovenden, E., & Sons,	"	Smeeton, W.,	Leeds
Davy, M'Murdo & Co.,	"	Hunt & Co.,	Exeter	Sonthall & Co.,	Birmingham
Dobbin, W., & Co., Limited	Belfast	Hunt, A., & Co.,	"	Sutton, W., & Co.,	London
Drew, Barron & Co.,	London	Johnson, J. H. & S.,	Liverpool	Tomlinson, Hayward & Co.,	Lincoln
Drew, B., & Alexander,	"	Langton, W., & Co.,	London	Treacher, Hodgkinson & Co.,	London
Dunn & Company,	"	Lynch & Co.,	"	Westrup, J. B.,	Kennington
Edwards, W.,	"	Mander, Weaver,	Wolverhampton	Westwood & Hopkins,	London
Evans, Gadd & Co.,	Exeter	Marsden & Sons,	London	Woolley, James,	Manchester
Evans, Lescher & Webb,	London	Maw & Son,	"	Wyleys & Brown,	Coventry
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After these public statements in a Court of Equity, and subsequent confirmation by the trade at large, no Chemist can conscientiously use or sell any other compound for Chlorodyne without committing a breach of faith, unjust to patient and physician. The value of the remedy alone creates the great demand.

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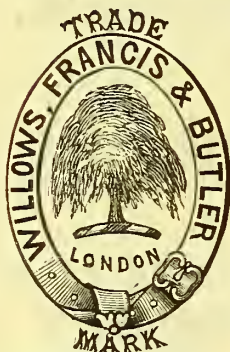
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" 2.—Physic Balls	30/	"
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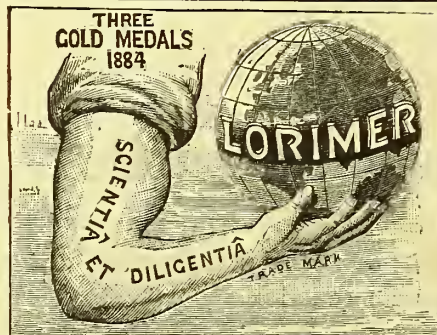
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They require neither confinement nor
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1 part to 5 Sp. Vial Rect. 56 o.p. makes Sp. Æth. Nit. 850.

This concentrated preparation, carefully drawn in our own laboratory, is highly recommended, and daily finding increased favour with the trade for making Sp. Nitre, as required for use, thus avoiding the risk of loss of Nitrous Æther, and the development of free acid, both of which are almost certain to occur in Sp. Nitre which has been some time drawn.

Price in 1lb. Bottles, 3s. per lb.; in Winchester Quarts, 2s. 10d. per lb., net.

Importers of Cod Liver, Castor, and Olive Oils; Otto de Rose, and all Essential Oils; Valerian Safron; Vanillas; Fruit Essences; Carmine; Aniline Dyes; Bees Wax, &c., &c. Applications for Special Quotations invited.

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Tabellæ Nitroglycerini, B.P. 1885 (Martindale).

By authority of the Medical Council, the compilers of the British Pharmacopœia have adopted and made OFFICIAL Nitroglycerine Tablets, as Manufactured by W. M. during the last ten years. The Nitroglycerine is in a perfectly fixed solution in Chocolate. The Tablets are palatable, and weigh ONLY 2½ grains each. They are sold at the following prices:—

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Also CAPSULES OF IODIDE OF ETHYL, covered with Silk, 8 in a Box, Retail, 2s. 6d.

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Only Efficient Preventive against the Prostrating Epidemic of RUSSIAN INFLUENZA.

Universally Acknowledged the Best Remedy for Affections of the THROAT, CHEST, and LUNGS. Recommended by the greatest Medical Authorities, especially by SIR MORELL MACKENZIE, whose Testimonial is affixed to each box.

They are irresistible in the cure of all Chronic Catarrhal Affections, as

**Coughs, Colds, Bronchitis, Asthma, Irritation, Diphtheria,
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They are Nature's own Medicine, and contain neither drugs nor anodynes; may therefore be safely given even to children of tender age. Nobody old or young, should ever be without them, their effect being equally wonderful as a

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PREPARATIONS FOR THE TEETH

Are the PUREST, SAFEST, and BEST that can be used, containing nothing of a deleterious nature. They are strongly recommended by Drs. E. Smith, M.R.C.S., Prof. W. Wilson, M.D., Gordon Stables, M.D., R.N., Geo. H. Jones, D.D.S., F.R.S.L., F.R.M.S., &c., Andrew Wilson, M.D., F.R.S.E., &c., &c., J. Hounsell, F.R.C.S., and many others.

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PURILINE TOOTH WASH for the TEETH, GUMS, and BREATH. A pure, perfect, and refreshing Fluid Dentifrice. A few drops in water used daily will thoroughly Cleanse, Beautify, and Preserve the Teeth, polish the Enamel, prevent Tartar, destroy all living "Animalculæ." It is Absolutely Pure and Harmless to the youngest child or most delicate constitution. Used as a Tooth Wash after each meal will keep the mouth in a delicious condition of comfort, health, purity, and sweetness, for ever. 1s. and 2s. 6d.

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Retails at 1/1½, 2/9, 4/6 per box.

Memorandum of Agreement made this.....day of..... 1889, between A. E. POWELL & COMPANY, of Swindon in the County of Wilts, Proprietors of the Moonseed Bitters and Moonseed Ointment (hereinafter called the "Vendors"), of the one part and of (hereinafter called "the Purchasers"), of the other part.

Whereby it is mutually agreed between the said parties hereto as follows:—

In consideration of the Vendors selling to and supplying the Purchasers with Moonseed Bitters, Moonseed Ointment, and other preparations manufactured and sold by them (hereinafter termed "the Goods") at their usual prices, the Purchasers will observe and perform the following terms and conditions:—

1. The Purchasers to sell the Goods retail for full printed prices only, and for each and every Bottle or Box of Moonseed Bitters, Ointment, or Pills sold by him or them at any less price, without the written consent of the Vendors, the Purchasers shall pay to the Vendors the Sum of Twenty Shillings in the nature of a penalty, to be recoverable as ascertained liquidated damages.

2. The Purchasers not to supply any Wholesale House nor to sell the Goods wholesale to any Chemist or Druggist or Medicine Vendor who will not previously enter into an Agreement to retail the same at prices in accordance with the preceding Clause No. 1 of these presents.

All Purchasers who have signed a similar form of Agreement to the foregoing will be supplied upon the Vendors' usual trade terms, but those Purchasers who do not sign a similar form of Agreement to be supplied upon the following terms only, namely:—RETAIL, 4s. 5d. for each and every 4s. 6d. Box or Bottle, 2s. 8d. for each and every 2s. 9d. Box or Bottle, and 1s. 0½d. for each and every 1s. 1½d. Box or Bottle—net in all cases. WHOLESALE, 4s. 4d. for each and every 4s. 6d. Box and Bottle, 2s. 7d. for each and every 2s. 9d. Box or Bottle, and 11½d. for each and every 1s. 1½d. Box or Bottle—net in all cases. This Agreement and the terms and conditions herein contained to remain in full force and virtue for the term of 7 years from the first day of March, 1889.

As witness the hands of the said parties hereto the day and year first above written.

We call attention to the important steps which we have taken to prevent our specialities being retailed at less than the advertised prices, and we ask the co-operation of the Trade in maintaining the integrity of the scheme whereby the sale of our preparations may always be retained by the legitimate trade. We will not only endeavour, by all means in our power, to prevent the advertised prices being "Cut," but will give Chemists every assistance and facility for making this a large as well as a paying business.

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Fox's "PALATABLE" CASTOR OIL, 6L, 1/. In use 20 years.
Both Medicines will stand any Climate. Terms unaltered, and
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His formula for Fox's "KIDNEY AND BLOOD MEDICINE" is one of the best Blood Medicines known, and has been largely used for last 30 years. Half-pint bottles, 2/6. Send trial order. Fox's "PALATABLE" CASTOR OIL is recommended by all the leading Physicians in England. See their opinions. Dr. Garrett Horder, National Sanatorium, says, "It is particularly recommended for children and delicate females, and owing to its really pleasant taste is very easily administered." Patients can take it when all other kinds are rejected.

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FOREIGN AND ENGLISH CHEMISTS,
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Messrs. Roberts & Co. beg to inform the Trade that they are Agents for all the principal French and Foreign Specialities and Medicines, a large supply of which they have always on hand, and can supply on very favourable terms. They are in daily communication with their Paris House, and can offer exceptional facilities for procuring New Medicines, &c., &c., with very little delay. The following is a list of a few that they name *au hazard*, any that have a large sale:—

Per doz.	Retail	Per doz.	Retail	Per doz.	Retail	Per doz.	Retail
4/6..Alcool de Menthe Ricques 41/5	4/6..Capsules Matico	36/	2/3..Gnyot's Gondron	18/	7/0..Rabuteau's Elixir Ferrug. 65/		
2/5 Ditto	4/6.. " Raquin	36/	11/..Laville's Gout Tincture ..	91/10	2/9.. " Sirop	24/4	
2/9..Anbergier's Syrup	4/6.. " Mathey Caylins	27/	11/.. " Pills	91/10	4/0..Racahout	31/	
2/9.. " Pâte	4/6..Chassaing's Wine	38/9	2/3..Papier Fayard	13/6	4/6..Reynal's Bougies	37/10	
6/6..Bay Rum	2/9.. " Pills	24/4	1/14 Ditto	7/3	2/9..Ricord's Injection	24/4	
5/6.. " Ditto	4/6..Clin's Bromide Cam. Dragées 45/	4/	4/..Papier Fruneau	24/4	4/6.. " Capsules	36/	
2/..Belloc's Charcoal	5/..Ean Botot (Genuine)	40/1	2/3.. Ditto	14/5	9/.. " Syrup	90/ ; 4/6 ; 42/	
1/9.. " Lozenges	3/.. " Ditto	24/4	1/9..Pâte Anbergier	15/4	1/6..Star Paper	11/	
4/6..Blancard's Pills	2/6..Espic's Cigarettes	13/6	1/9.. " de Berthé	15/4	2/9..Vallet's Pills	22/6	
2/6.. " Ditto	6/..Elixir de Coca	56/9	2/9.. " de Coca	24/4	1/9.. " Ditto	14/5	
8/..Bron's Injection	2/9..Flon's Syrup	22/6	1/9.. " de Georgé	14/5	4/6..Velontine (White,Pnk,Yel.) 37/1		
8/ Bugeand's Wine	2/..Gayetty's Paper	15/4	1/14 " Ditto	9/	3/6.. " ditto	27/	
4/ Bully's Vinegar	2/3..Granules Arsen. Acid	13/6	1/6.. " de Nafé	13/6	2/9..Vichot's Trochisques	21/8	
2/.. " Ditto	2/9.. " Iron	14/5	1/9.. " Regnaud	14/5	4/6..Valentine's Meat Juice	38/	
4/6..Candé's (Lait Antéphilic.) 39/8	2/9.. " Soda	15/4	7/..Pierlot's Valerian	69/5	4/6..Vin de Coca Mariani	39/8	
4/6..Capsules Bromide Camph... 45/	2/9..Grimault's Syrup Lime	23/5	2/9..Rabuteau's Drgées Ferrug. 24/4				

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THESE beautiful little lozenges, perfectly spherical in form, weighing about 400 to the ounce, of exquisite flavour and great strength, are the most popular and perfect breath lozenges ever introduced; unlike the ordinary flat lozenges, these little PEARLS have no angles to attract dust and become soiled with a slight handling, consequently they can be carried in the purse or pocket, and are altogether more portable than ordinary lozenges.

The unique appearance and flavour of this novelty quickly ensured a large sale, and its success, as might have been anticipated, quickly brought to the front some worthless imitations, the sale of which can only result in disappointment to all concerned.

KERFOOT'S Pearl Cachous

are the only genuine PEARL CACHOUS: they are not only better looking, but are double the strength of the imitations, and buyers are therefore requested to order the original, and thus ensure a perfect article. They are elegantly put up in attractive one-pound bottles, and are an ornament to any Pharmacy. The following flavours are always in stock—

Rose.	Jockey Club.
Musk.	Violet.
Ess. Bouquet.	Rondeletia.
Lavender.	Clove Pink.

Price 2s. 9d. per lb. in 1-lb. bottles

Eight bottles sent carriage free to any part of the Kingdom.

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THE MOST POWERFUL
INVIGORANT
EVER PRODUCED.

Permanently restores those weakened by early indiscretions, imparts youthful vigor, restores vitality, strengthens and invigorates the BRAIN AND NERVES. A positive cure for IMPOTENCY and Nervous Debility. *Prompt, Safe, and Sure.* 4/6 per box, 6 for 22/6. Usual discount to the Trade. Send for Circular.



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ARE THE BEST AND CHEAPEST.

Attention is called to the following articles:—

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MEDICINAL CAPSULES	8/ & 2
Peruvian Mixture Capsules.....	2/6
Matico Oil and Copaiba do.....	4/
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Cubeb Oil and Copaiba do.....	3/6
Copaiba, Cubeb Oil, and Santal Oil do.....	1/8
Copaiba Capsules, No. 0.....	1/8
" " No. 1.....	1/8
" " No. 2.....	1/8
Copaiba, Alum and Cubeb.....	1/8
Compound Ferruginous.....	1/8
Male Fern Oil.....	8/
Cod Liver Oil.....	1/8
Oyster Oil.....	1/8
Denoal's Injection (to insure a radical cure).....	2/9

A LARGE PROFIT.

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and all other Lithia Salts.

MERCURIALS

Calomel, Corrosive Sublimate, Oxides, &c.

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Chloral, Terpene, Osmic Acid, Tannin, Tartar Emetic.
LIQUID CHLORIDE OF METHYL, for the treatment
of Rheumatism, Neuralgia, &c.

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Sole Agents for **BILLAULT**, Rue Sorbonne, PARIS.
N.B.—Stock of the above kept in London.



We distil pure oil of Eucalyptus **GLOBULUS** (which contains 66 per cent. of Eucalyptol, far in excess of any other variety) as a by-product in the manufacture of our Eucalyptus Boiler Fluid, and are therefore, enabled to place it in quantities at a much lower rate than has heretofore been asked for it.

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4 BEDCROSS STREET, LIVERPOOL; and
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FOR LOW PRICES OF INHALERS,

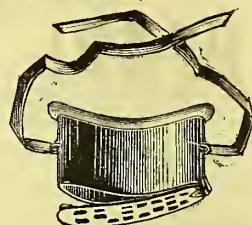
RESPIRATORS, ETC.



No. 785



No. 787



No. 789

SEE NEW ILLUSTRATED PRICE LIST
OF
F. SCHUTZE & CO., 36a ALDERSGATE ST., E.C.

POMIES'
OPHTHALMIC
POWDERS
AND
MEDICINES.



OPHTHALMIC
INSTITUTION &
LABORATORY,
32
EUSTON SQUARE
LONDON, N.W.

POMIES' OPHTHALMIC POWDER
AND MEDICINES.

For the rapid cure of diseases
of the Eye without operation.

ALL CHEMISTS SHOULD KEEP IT.
PRICE LIST SENT ON DEMAND.

New method of curing diseases of the Eye
without operation, by E. POMIES, Occulist,
late Surgeon in the French Army, &c., sent on
demand to all Chemists for distribution.

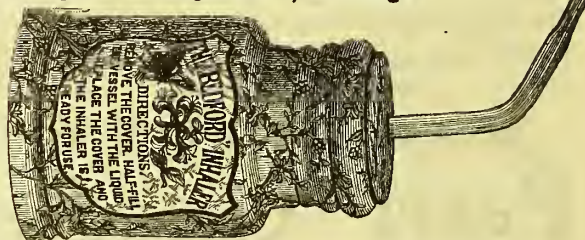
Sold by Wholesale Agents in London.

THE "BEDFORD" INHALER

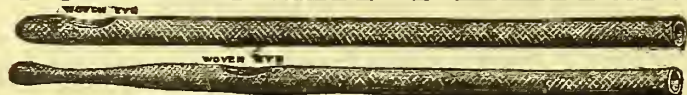
IS BEING PRAISED EVERYWHERE.

THE CHEMIST AND DRUGGIST says:—"The manipulation of the 'Bedford' Inhaler is simplicity itself." Price to the Trade, 15/ per doz. In ordering be sure and mention the "BEDFORD."

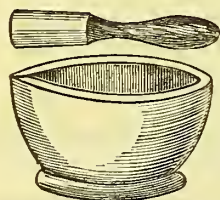
Sole Agent—H. C. QUELCH, 19 Ludgate Hill.



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Inventors and Manufacturers of the
SOFT SILK FLEXIBLE CATHETER,
GUARANTEED WITH WOVEN EYES.



To be had of all Surgical Instrument Makers
and Wholesale Houses.



WEDGWOOD ACID-PROOF
MORTARS AND PESTLES.

ALSO MANUFACTURERS OF
Funnels, Evaporating Pans, Electric Battery Fittings, Bed Pans, Urinals, Medicine
Spoons, Physic Cups, Sick Feeders, Bleeding Basins, Medicine Measures, Eye Cups,
Inhalers, Nursery Lamps, Wall Tiles, &c.

PRICE LIST ON APPLICATION. SPECIAL QUOTATIONS FOR LARGE ORDERS.
Any Article not bearing the Stamped Trade Mark "WEDGWOOD" is not made by us.

JOSIAH WEDGWOOD & SONS, ETRURIA, STOKE-ON-TRENT.
London Rooms: ST. ANDREW'S BUILDINGS, HOLBORN CIRCUS.

THE SURGEONS' LINT,

V.B. QUALITY.

The superior quality of Newsome's Absorbent Surgeons' Lint is universally admitted. The V.B. quality is quite pure and of great superficial area and exquisite softness. The O., D., E., and F. qualities are equally pure and absorbent; E. is stronger in fabric.

NEWSOME'S BLEACHED ROLLED BANDAGES, 3 in., 2½ in., 2 in. Also SURGICAL ABSORBENT OPEN BANDAGES.

Specially Bleached & Grey Carded Cotton Wools, Absorbent & Bleached & Grey Waddings; also Sheet Waddings, Tow, &c.

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Spinner and Manufacturer,
JERSEY ST. MILLS, ANCOATS, MANCHESTER.

Telegraphic Address—"Newsome, Ancoats," Manchester.

See INDEX TO ADVERTISEMENTS, pp. 31-33.

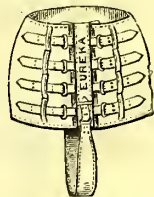


Cable Address—
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Send for
Special Detailed
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PIRATES! BEWARE!!
Chemists are requested to abstain from Purchasing
their stock of Chest and Lung Protectors until they
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FELT SPECIALITIES.**



HANDSOME STATUETTES,
under Glass Show-case, perfectly fitted, also
Show Cards and Circulars Free upon Stocking my goods.

OBTAINABLE FROM EVERY WHOLESALE HOUSE

Full information from the Absolute Inventor and Manufacturer,

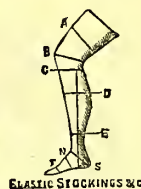
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29, 30, 31 Paternoster Square,
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NEAR CHESTERFIELD.



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**GODFREY'S
CHLORIDE of AMMONIUM INHALER**

Catarrhal Throat and Ear Affections, Loss of Voice,
Bronchial Asthma, and Hay Fever.

The SIMPLEST FORM of INHALER.

VERY PORTABLE. CONTAINS NO WATER.

Silver Medal, Brussels Exhibition, 1888. Yields a plentiful cloud of Neutral
Vapour, with little or no effort on the part of the patient.

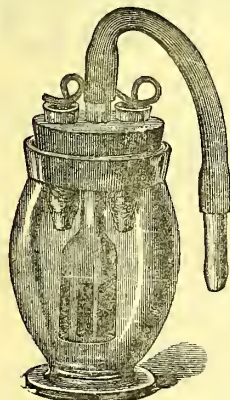
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PRICE 7s. 6d. RETAIL.

May be obtained through S. MAW, SON & THOMPSON, London.

Illustrated Prospectus, with the "History of Chloride of Ammonium as a Remedial Agent,"
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Strong cotton cloth, 7 in. wide—yards, 17/; 5 yards, 78/ per doz
Twilled linen, 6 " " " 24/; 5 " " 138/ "

Plain or Porous.

Moleskin, 6 in. wide—yards, 48/; 5 yards, 216/ per doz.

10 yard spools, { 1 1 1/2 2 2 1/2 3 in. wide.
plain. { 18/ 24/ 30/ 40/ 50/ 60/ per doz

SUBJECT TO DISCOUNT.

Sole Manufacturers—

[2]

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**THE IMPROVED MUSTARD PLASTER THAT
NEVER BLISTERS THE SKIN.**



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SINAPINE MUSTARD
TISSUE PAPER.**

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Inventors and Sole Manufacturers:

COOPER & CO.

Pharmaceutical Chemists,

GLOUCESTER ROAD, SOUTH KENSINGTON, S.W.

Established 1863.

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May be obtained of Wholesale Agents throughout the
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CHALMERS' PATENT SAMPLE AND PARCELS POST BOX. **THE ONLY BOX** That fulfils ALL the requirements of the POST OFFICE.



Is fastened INSTANTLY.
Cannot open by accident.
Is immensely strong.
Has no corners.
No seams, joints, nor solder.
Nothing to scratch or tear letters.
Is practically air-tight:—Is used
for Flour, Cherry Blossom,
Sanitas, and Soap-Powders.
Dispenses with string, bags, and
paper.
Saves 19 minutes out of 20.

94,500 SOLD IN THREE MONTHS

SAVING THEIR OWN COST.

W. B. CHALMERS, 37 MINCING LANE,
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BETTS & CO., LIMITED

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SOLE MAKERS IN GREAT BRITAIN OF

METALLIC CAPSULES,

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COLOURED SIDE MARK, LABEL, AND OTHER SPECIALITY CAPSULES

(For the Prevention of Fraud and Refilling of Old Labelled Bottles), as supplied to BASS & Co., HENNESSY AND MARTELL COGNAC, and the leading Brewers and Bottlers of Wines and Spirits throughout Europe.

PLAIN ORDINARY CAPSULES,

For Small Phials, 2s. 6d. and upwards per 1,000, according to size, style, design, and quantity.

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Manufacturers of Pure English-made Bottling and Package Tinfoil, from 1s. per lb. and upwards; Mixed Foil (Foreign Quality), from 6d. per lb. (according to gauge); Patent Barrel Packages and Snuff Canisters, Tea Packages, &c.

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PATENTEES OF HYDRAULIC & MECHANICAL PRESSURE CAPSULING MACHINES,

ESPECIALLY ADAPTED FOR CHEMISTS' COUNTERS.

Largely in use by the Trade, and efficiency guaranteed for all sizes of Bottles, at Royalties from 5s. to £2 2s. per annum:



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THE "FAMILY" INHALER.

(A SHILLING LINE.)

A really well-finished Earthenware Inhaler. Makes a capital leading line for window display, as it is not affected by either dust or sun. 9/ per doz. nett.

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(AN EIGHTEENPENNY LINE.)

Same shape as Nelson's, but smaller. A nice-looking, graceful Inhaler. Just the thing to recommend for Household use. 13/ per doz.

THE "DESIDERATUM" INHALER.

(A HALF-CROWN LINE.)

The same size and shape as Nelson's, but cheaper kind of top. A most satisfactory article. 21/ per doz.

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This is too well known to require description. It is a highly-finished and perfect make. 32/ per doz.

ROYAL SCARLET THROAT COMPRESS.

A saleable line. Made of the finest Scarlet Flannel and Spongio Piline. It supplies a long-felt want. In two sizes—Children's and Adult's. 9/ and 12/ per doz., in handsome ½-doz. Glass-top Window Showcase.

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Are going splendidly this season. Only require to be shown—they sell themselves. 4/ per doz., in 1 doz. Boxes, or 3 doz. Glass-top Counter Case.

BRONCHITIS KETTLES.

These are being used by the public more and more. Chemists are urged to keep this trade from drifting to the Ironmonger. In three sizes, 20/, 33/, and 48/ per doz. A sample of each does not run into much capital.

RESPIRATOR INHALER.

Nickel-plated. This is now being largely prescribed by Medical men for inhaling Eucalyptus, &c., &c., &c. Price 15/ per doz., or lined with Velvet, 20/ per doz.

RESPIRATORS.

Best make. A large assortment. Yield big profit to the Chemist. Worth pushing. A handsome Gold-labelled Mahogany Window Display Case given away with 3 dozen selected from the following:—

Nos.	2	3	4	5	6	7	8	8½	9	10	11	12
Retail	2/	2/6	3/	3/6	4/	5/	6/	2/6	3/6	4/	4/6	5/ each.
Wholesale...	14/	18/	21/	24/	30/	36/	42/	18/	24/	30/	33/	36/ doz.

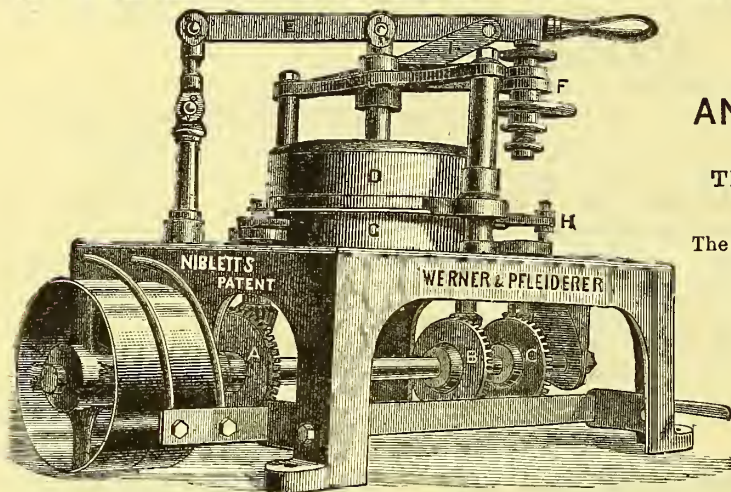
Nos. 8½, 9, 10, 11, 12 are Ladies'.

All the above can be ordered from our Wholesale friends in England, Ireland, Scotland, and the Colonies, or from Messrs. EDWARDS & SON, Queen Victoria Street, LONDON, E.C.

SPECIAL TERMS TO SHIPPERS.

AYRTON & SAUNDERS, 149 DUKE ST., LIVERPOOL.

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PILL ROUNDING AND FINISHING MACHINE (NIBLETT'S PATENT).

THE ONLY PERFECT MACHINE
FOR THIS OPERATION.

The Pill Plate takes $\frac{1}{4}$ lb. of Pills at once, and these are rounded in less than one minute. Can be worked either by hand or power. Used most satisfactorily by some of the best firms in the trade.

WRITE FOR PRICE AND PARTICULARS.

The "UNIVERSAL" KNEADING & MIXING MACHINE FOR PILL MASS MAKING.

Also for Horse Balls, Tooth Pastes, Ointments, Soaps, Powders, and for General Mixing and Incorporating.

PIPING PRESSES, PILL CUTTERS, PILL COATERS.

WERNER & PFLEIDERER, 86 UPPER GROUND STREET, **LONDON, S.E.**
TELEGRAMS—"PFLEIDERER LONDON."

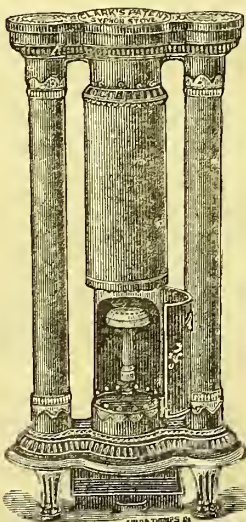
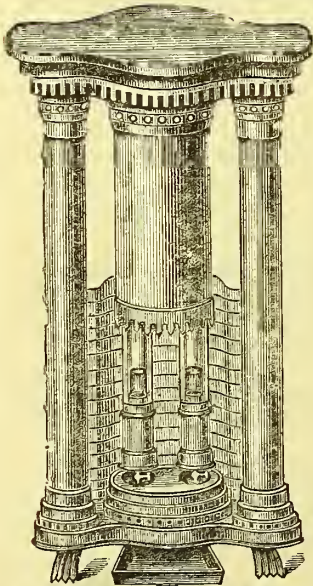
TO CHEMISTS AND DRUGGISTS.

AGENTS WANTED FOR THE SALE OF CLARK'S PATENT

"SYPHON" (REGISTERED TITLE) HYGIENIC CONDENSING GAS HEATING-STOVES.

NO FLUE REQUIRED. ARE FREE FROM SMELL OR SMOKE.

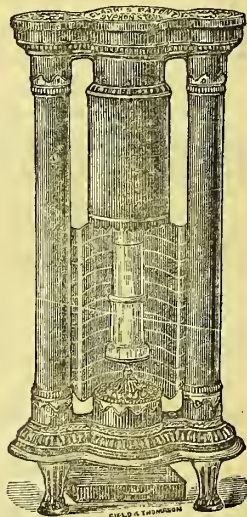
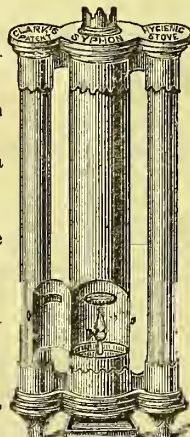
All injurious vapours are reduced to harmless liquid inside the Stove, and passed out at foot into a tray provided for that purpose.



For Use in Hospitals, Sick Chambers, Bedrooms, Halls, Conservatories, Churches, Schools, &c.

Specially suitable for patients suffering from Bronchial affections, as a moist atmosphere is obtainable when required.

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Respectfully beg to inform their Customers and Friends that they have completed, and are now working their NEW and EXTENSIVE GLASS WORKS at Lea Bridge, Clapton, London, E. The Furnaces are built in the LATEST STYLE, and fitted with EVERY MODERN IMPROVEMENT. Large orders can now be executed at a few days' notice.

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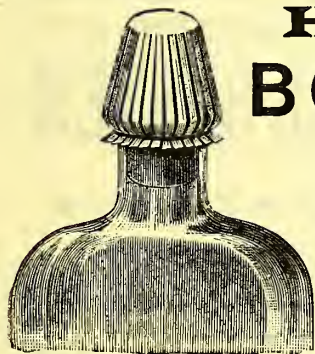


**GLASS
BOTTLES**
OF THE
BEST QUALITY.

DISPENSING, PICKLE, SAUCE, OIL,
MINERAL WATERS, &c., &c.

SAMPLES AND PRICES ON APPLICATION.

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**HUNT'S
BOTTLE
CAPS**

Pleated Paper, from 8d.
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LONDON :

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BEFORE ORDERING

Of any other House, please write for prices of any size
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NEARLY 1,300 IN USE

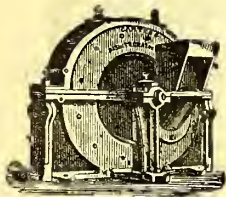
IN ALL PARTS OF THE WORLD.

For Grinding Sugar, Bark, Linseed, Ginger, Pepper, Spices, Salt, &c., this Machine is invaluable.
Made in 9 Sizes. Illustrated Catalogue may be obtained on application.

Samples of ANY Material will be Ground free of charge.

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ARE BONA-FIDE
MANUFACTURERS OF

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WORKING BY
Gas-Engine,
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Hydraulic, or Hand
Power.

FOR
Passengers,
Goods,
Luggage,
Dinners, &c.

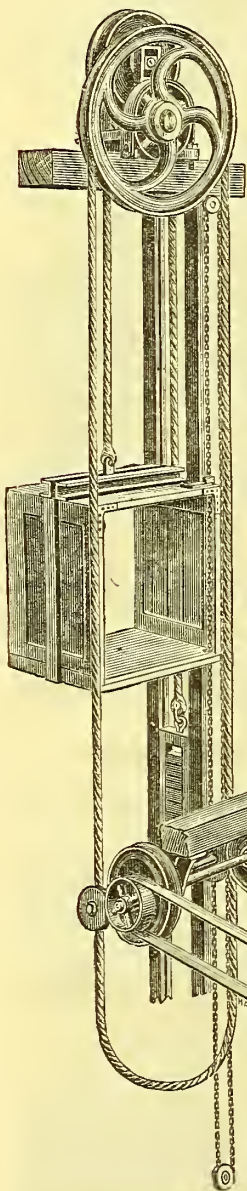
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CONTRACTORS TO H.M. WAR OFFICE
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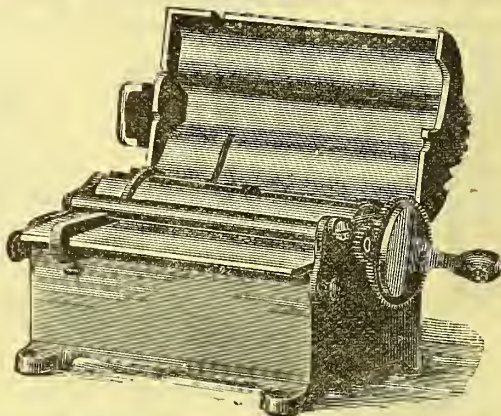
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TOMLINSON ST. WORKS, HULME,
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MACHINES FOR MAKING COMPRESSED TABLETS.

MACHINES FOR GUMMING

Either an entire surface or the edge only of Labels,
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Machines Built to Contract for Inventors and
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STOKES' PATENT CHECK TILL SYSTEM

HAS
SIX ADVANTAGES
UNKNOWN IN ANY OTHER TILL SYSTEM.
Price only **£3** Complete.

FULL PARTICULARS ON APPLICATION TO

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In 6d. and 1s. Boxes, 42s. and 84s. per gross.
(As supplied to Jewellers and Silversmiths all over the World.)

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In 6d. and 1s. Packets, 42s. and 84s. per gross.
(For Household and general purposes.)

TO BE OBTAINED OF ALL WHOLESALE HOUSES, OR OF

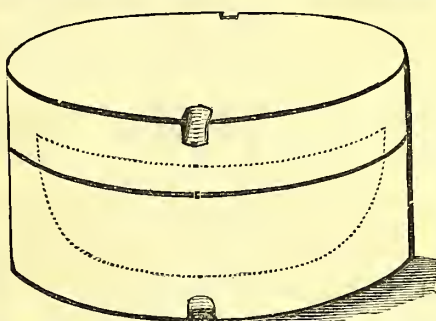
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Putty Powder, Steel Polish, & Polishing Paste Manufacturer,
1a Upper Charles Street, London, E.C.

WILLIAM TOOGOOD'S WAREHOUSE AND SHOW ROOM, BURLINGTON BUILDINGS, HEDDON STREET, REGENT STREET, LONDON, W.

TOOGOOD'S IMPROVED PATENT EARTHENWARE COVERED POTS

Are claimed to be the most
perfect and convenient yet offered to
the Trade.



*Owing to the increasing demand
for our Patent Pots, we have in-
troduced a Special THIN Series
for Dispensing.*

*These Pots are beautifully
glazed and finished, and, being
very light, are specially adapted
for sending by post.*

ORDINARY THICKNESS—

1 dr.	2 dr.	1/2	1/3	1/4	1/5	1/6	1/8	1/10	2/2	3/10	4/4	6/6	8 ounces.
1/6	1/6	1/6	1/7	1/8	1/10	2/2	2/10	3/4	4/6	5/6	per doz.		

THIN FOR DISPENSING—

1/7	1/8	1/10	1 1/2	2/4	3/	4/8	5/-	8 ounces.
								6/- per doz.

Forwarded Free to all parts of the World on application, enclosing business card.

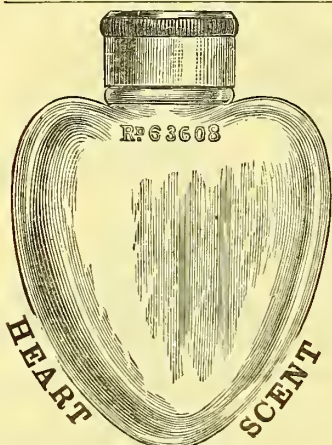
WILLIAM TOOGOOD'S NEW ILLUSTRATED PRICE CURRENT

OF

Glass Bottles, Glassware, Earthenware,
Apparatus, Implements, and Utensils,
FOR THE USE OF CHEMISTS AND DRUGGISTS.

DRUGGISTS' SUNDRIES OF ALL KINDS.

Colonial and Foreign Enquiries and Correspondence solicited.



R. H. BARRETT,

Flint Glass Bottle Works,
THE OVAL, CAMBRIDGE HEATH, LONDON, E.
THE HEART SCENT BOTTLE (Reg.), for Salts or Perfume.

Is most admirably adapted for pocket use, combining great beauty of design with the maximum of convenience.

Price, Plain or Fluted (in 5 GROSS lots) :- Assorted WHITE and COLOURED, 12/6 per gross.
N.B.—The Caps for these will be fitted, if desired, with indestructible washers, to resist the action of ammonia, which destroys cork in a short time.

METAL SCREW-CAPPED LIMES, in White Flint, Actinic Green, or Amber.
The Best Bottle for Glycerine or Pills. Prices: 1 oz. 13/6, 2 oz. 15/-, 3 oz. 18/-, &c. per gross.

Chemists' and Perfumers' Bottles in great variety, Plain or Stoppered.

Orders may be sent to the PRINCIPAL WHOLESALE HOUSES.

TELEGRAPHIC ADDRESS—"FOREFRONT LONDON."

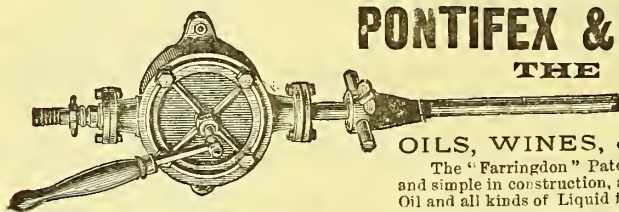
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CHEMISTS' SHOP FITTINGS, SHOW CASES, &c.

FOR BEST WORK AT LOW PRICES SEND TO

G. TREBLE & CO., 2 KINGSLAND GREEN, DALSTON, LONDON.

PLANS AND ESTIMATES FREE. SPECIAL ATTENTION PAID TO EXPORT ORDERS.



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THE "FARRINGTON" PATENT PUMP,

FOR PUMPING

OILS, WINES, & OTHER LIQUIDS FROM CASKS, &c.

The "Farrington" Patent Pump, with Improved Taper Barrel attachment. It is easy to work and simple in construction, and is admitted to be the best article in the market for pumping Paraffin Oil and all kinds of Liquid from barrels or tanks into other receptacles.

S.V.R.

PURE GRAIN SPIRIT 56 O.P., B.P., 18/5, ^{used by the principal Wholesale Druggists}

Do. Do. DOUBLE DISTILLED 18/9

Cash with Order.

Reductions for Quantities.

SAMPLES FREE.

S.V.R.

STEPHEN SMITH & CO., BOW, LONDON, E.

SPECIALITY FOR PERFUMERY.

This pure grain spirit, which has been thrice rectified and filtered through charcoal, is being largely used in making high-class Perfumes.

Price, 19/-, 56 o.p.; 19/6, 60 o.p. Cash with order.

Reductions for Quantities.

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STEPHEN SMITH & CO., BOW, LONDON, E.

JONES & COMPANY,
COPPERFIELD ROAD
LONDON, E.

LARGEST MAKERS IN THE KINGDOM.

We are prepared to supply METHYLATED SPIRIT in small quantities at 2/5 per gallon, 64 o.p.

On receipt of P.O. for 17/1 we will send 5 gallons best S. V. Meth.;
5/ allowed for empty Can when returned.

REDUCTIONS FOR QUANTITIES. SAMPLES FREE.

PATENT FOLDING CARD BOXES.

I. W. PARMENTER & CO., LIMITED

MANUFACTURERS & PRINTERS.

CARTOONS AND TRADE CIRCULARS, &c.

A Large Assortment of Papers, Straw Boards, Wood
Pulps, and Manillas of various thicknesses, with linings
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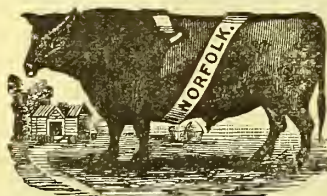
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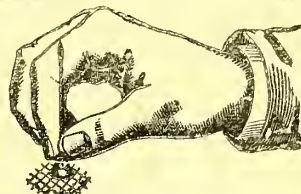
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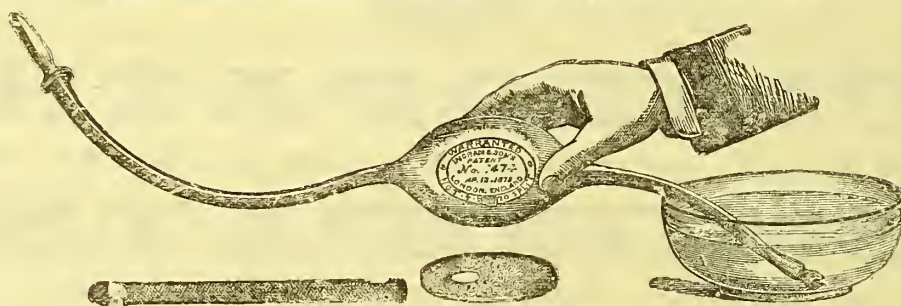
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avourably noticed in "British Medical Journal," December 18, 1879; in the "Lancet," January 8, 1880; and in "British Medical Journal," September 30, 1882.

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